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American Bee Journal

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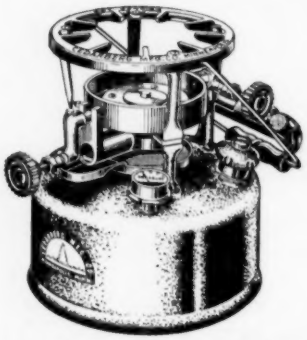

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We are booked up on April Packages. Look for our prices in January magazines.

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10% deposit with order, balance 10 days before shipment is due. If you have placed order confirm with deposit at once.

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1 to 29	$1.10	$4.00	$5.10	$6.20	$7.30
30 or more	.....	3.50	4.50	5.50	6.50

For queenless packages deduct $1.10 each from above prices. If queens are wanted introduced add $1.10 to the price of each package.

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Booking Orders For 1947

Subject to prices which will be published before the first of the year.

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ITALIAN BEES AND QUEENS

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B. J. BORDELON APIARIES, Moreauville, La.

Bee Supply Prices

Lumber has not only been scarce but it has increased in price to us way beyond the basis used to figure Beeware prices since our last price change. Not only lumber but many other factors entering our costs have increased beyond our control.

An appeal to O. P. A. for price relief had been made but final action had not occurred before this agency passed out of the picture June 30th last. Some price increases on goods we sell had already been made by the manufacturers, such as bee comb foundation, smokers, etc., which we necessarily passed on.

Effective July 15th we made an increase in price of bee supplies of 10% applying on items not previously increased during 1946. This increase should have been made sooner and the present increase will have little effect upon 1946 honey producing costs, since the season is nearly over.

This has been a trying season as we never had nearly enough lumber at any time to supply our old customers and were forced to cut down many orders to spread what little we had. Some lumber is almost impossible to buy which accounts for our having been out of sections at times. No one can tell what 1947 will be like but it appears that lumber will remain tight for many months. We will do the best we can to make the best supplies we know how with materials available and sell them at the lowest prices consistent with good business practice.

G. B. LEWIS COMPANY

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Branches: Sioux City, Iowa; Albany, N. Y. and Lynchburg, Va.

Honeybees as Pollinators Of the Cranberry

By C. L. Farrar (1) and Henry F. Bain (2)

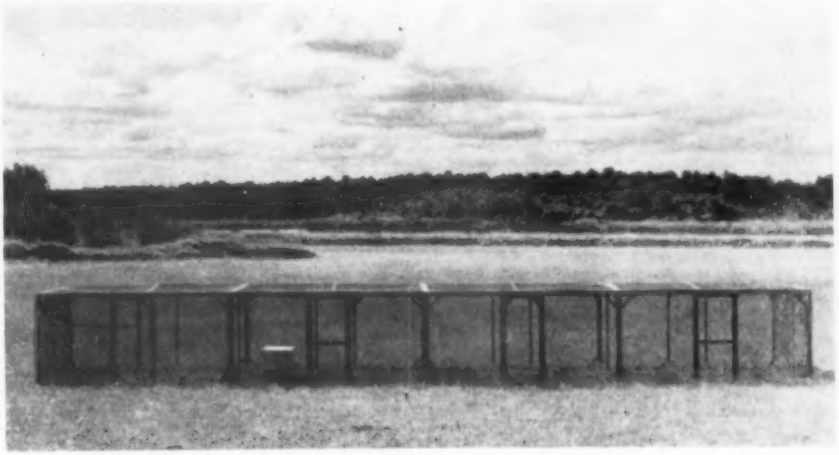
BECAUSE the cranberry is a high-cost, high-value crop, factors influencing the size and regularity of yields have great significance in determining profits or losses. Yields of 10 barrels per acre justify the cost of harvesting only when the market price is high.

The normal yield for Wisconsin marshes is 40 to 45 barrels per acre. The fact that yields between 100 and 150 barrels have been obtained and that much larger yields are theoretically possible provide the stimulus for investigating factors effecting cranberry pollination.

In the spring of 1945 E. L. Chambers, State Entomologist, Wisconsin Department of Agriculture, and the junior author called at the North Central States Bee Culture Laboratory and presented evidence that the lack of adequate pollination probably was a major factor effecting the disparity of yields on Wisconsin marshes. Mr. Bain has since published some of his data. (3)

Two contrasting views prevail on the mode of cranberry pollination—one that it is effected by insect visitors, and the other that wind or agitation of the vines is chiefly responsible. Franklin (4) states: "The flowers depend mostly on insects for pollination, but wild bees are so plentiful that it probably seldom pays to keep bees for this purpose."

Roberts and Struckmeyer (5) state: "Pollination is apparently brought about by wind-borne pollen reaching the pistil. This is not effective through any great distance . . . When honeybees visit the blossoms in search of nectar, they usually do not touch the stigma. The jarring of the blossoms during their visits would appear to be of prime importance in any aid to pollination which they render."



Through the cooperation of the University of Wisconsin and the employers of Mr. Bain, exploratory tests were undertaken to determine the effectiveness of honeybees as pollinators of cranberries.

Four screened cages (Figure 1), each covering 160 square feet of vines, were placed on the Midwest Cranberry Company's marsh in the vicinity of Spooner, Wisconsin, before the vines came into bloom. Two cages were used to enclose Searles vines that were in good vegetative condition (area A) and two to enclose vines of the same variety under bordeau spray tests for control of leaf spot (area B). Comparable check areas of vine were marked off in each case to provide for open-pollination controls. Sprayed vines were in a state of excessive but irregular vine growth, which is usually adverse to a good set.

The cages were erected on July 1. A populous one-story colony, provisioned with honey and pollen, was placed in one of each pair of cages. Weather conditions caused a delay of 3 to 4 weeks in the blossoming of cranberries in 1945, so that the peak of bloom came about July 27. The first observations on how bees worked the blossoms were made at that time. Both colonies had exhausted their pollen reserves, and so there was little active brood rearing. The queens were laying heavily and there was some sealed brood, but the larvae were not being fed. Each colony was given a 1½ pound cake of pollen and soybean flour to enable it to resume brood rearing. Two additional frames of honey were given to each hive, although the hives still had plenty of honey.

Unsettled weather with frequent light showers prevailed on July 27; consequently there was little activity on the blossoms. However flight of the bees was stimulated as soon as they were given the pollen cakes. Heavy rain fell at night, but by 10:30 the next morning a brief period of sunshine permitted observations to be made on the manner in which bees worked the blossoms. For the remainder of the day bee flights fluctuated with changes in light conditions. During much of this time about one bee per square foot of vines was working the blossoms. Sunday the 29th was clear and warmer, and many more bees were observed working the blossoms than were found on the two previous days. It was not uncommon to watch a small area of blooming vines for some time without seeing a bee and then to see one crawl up from a position deep among the vines and fly to the hive. These bees were working the lower blossoms obscured from a surface view.

The bees worked the blossoms principally for nectar, since the cranberry blossom produces comparatively little pollen. No bees were seen carrying loads of pollen into the hives. They usually alighted on the sexual column of the flower (the pistil surrounded

(1) Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, United States Department of Agriculture, in cooperation with the University of Wisconsin.

(2) Cranberry specialist Badger Cranberry Co., Biron Cranberry Co., Cranberry Lake Development Co., and Midwest Cranberry Co.

(3) Bain, Henry F. Blooming and fruiting habits of the cranberry in Wisconsin. Cranberries 10 (9): 11, 14. January 1946.

(4) Franklin, Henry J. Cranberry growing in Massachusetts. Mass. Expt. Sta. Bul. 371, 44 pp. 1940.

(5) Roberts, R. H., and Struckmeyer, B. Esther. Growth and fruiting of the cranberry. Amer. Soc. Hort. Sci. Proc., 40: 373-379. 1942.

by the cluster of anther tubes) and crawled over it in a manner that allowed the branched hairs on their bodies to pick up pollen grains from the open ends of the anther tubes and brush pollen onto the adjacent stigma. The bees soon probed between the anther tubes and the pistil to reach nectar at the base of the flower. Had they alighted on the petals and probed for nectar from that position, direct pollination could not have been accomplished.

In both cages provided with bees there were noticeably fewer open blossoms than in the check cages or on the open marsh. It was found, however, that many more blossoms had dropped their petals and had been replaced by small berries, an indication that more prompt pollination was responsible for the apparent difference in the number of blossoms.

On August 9 the cages were removed except from the enclosed check areas, where some open blossoms were still present. Random-sample counts of the blossoms and berries per square foot are summarized in table 1. The fruit was harvested on October 5, and the yields were calculated to barrels per acre (table 2).

Table 1
Effect of Honeybees on Pollination of Cranberry Vines, Area A

Treatment of vines	Number of samples	July 27 Uprights No. per sq. ft.	July 27 Uprights Per cent blossoming	July 27 Blossoms No. per sq. ft.	July 27 Blossoms Per cent set	Aug. 27 No. of berries per sq. ft.
Caged with honeybees	5	460	46	604	41	248
	1(1)	640	55	1140	42	484
Open check	3	636	48	888	19	168

(1) Selected high-population sample not included in the average.

Table 2
Yield and Size of Cranberries from Test Plots

Test plots	Yield, barrels per acre	Number of berries per standard cranberry counting cup	Number of seeds per berry
Area A:			
Bee cage	171	107.3	13.8
Open check	124(1)	108.5	8.6
Cage check	10	97	9
Area B:			
Bee cage	64	—	—
Open check	45	—	—
Cage check	3	—	—

(1) Entire 3-acre section yielded 225 or an average of 90 barrels per acre, on the 2½ acre portion which produced all the crop.

The fruit in both bee-pollinated plots averaged larger in size on August 27 than did that in the open checks, but at harvest the fruits from both plots showed the same cup count. The fruit from the bee-pollinated plot was more uniform but lacked the maturity of either the open-pollinated or the caged checks. The berries showed much less color and the vines were still green. This difference in maturity was not due to shade from the cages, since the vines that had been covered by the check cages showed no difference from those in the open marsh. The berries and vines in the bee cages apparently matured more slowly, because prompt pollination resulted in an extremely heavy set of berries, all in nearly the same stage of development.

There is every reason to assume that in a normal growing season there would have been a greater average increase in fruit size on the bee-pollinated plots than on either the cage checks or the open checks. With at least 3 weeks more for growth and maturity the increase in yield, instead of 40 per cent, might have been 50 or 60 per cent or even higher.

Supplementing these tests, the junior author made observations on the honeybee activity on a 165-acre marsh where approximately 50 hives had been provided. He found the bees in considerable numbers working the blossoms in the same manner as when they were confined within the cage. This marsh returned an average yield of 80 barrels compared with approximately 29 barrels, the state average, or 26 if the crop from this one marsh is excluded.

Discussion and Recommendations

These exploratory tests show that yields may be substantially limited by a lack of insects to effect pollination, that the exclusion of insect visitors will reduce yields almost to the vanishing point, that honeybees will work the blossoms in a manner which will effect pollination, and that yields may be increased substantially if adequate numbers of bees are provided and they actually work the blossoms.

There is reason to believe that in some seasons or localities other plants which secrete nectar more abundantly, especially the clovers and basswood, may compete for the work of honeybees, thus drawing them away from the cranberry marshes. This may necessitate saturating the areas with honeybees by providing more colonies so that sufficient numbers of bees can be forced to visit the cranberry blossoms.

Training methods may possibly be employed to hold at least some of the bees on the cranberry blossoms. If the bees are confined by small portable cages until they start working the blossoms and are then released, it would be in harmony with bee behavior for these individuals to continue work on cranberries and communicate with other bees in the hive that this nectar was available. If the shift to competing plants became too great, the colony could again be confined for training purposes, perhaps for an hour or more every day during the blossoming period.

Certain other assumptions are worthy of consideration. Under good cranberry culture there may be from 13 to 40 million blossoms per acre. A full-strength colony of 50,000 bees could provide, under favorable weather conditions, 500 million bee visits to flowers during a three week blossoming period. Under favorable conditions one strong colony would seem to suffice for 1 to 2 acres; under unfavorable conditions five to ten such colonies per acre might be needed. However, many so-called colonies of bees are capable of providing not more than one-sixth the number of field bees available from a full-strength colony.

Until many questions pertaining to cranberry pollination can be answered, the growers should use as many colonies of bees as possible to provide for pollination under the most unfavorable conditions. The colonies should be built up to maximum strength before blossoming time. This requires productive queens, abundant stores of honey and pollen, and hive space properly organized for rapid colony development and swarm prevention. USDA Circular 702, "Productive Management of Honeybee Colonies in the Northern States," will prove helpful in the management of strong colonies.

Cover Picture

Again this Christmas, the cover picture is from those versatile photographers, John Allen and Son, West Lafayette, Indiana. John Allen's grandchildren most likely so it is a picture with love behind it. We detect a slight attempt to watch the picture taking but both boys do well enough at posing to make it realistic and so let us say to our readers A Very Merry Christmas.

The Grasshopper That Fooled the Ants

By Hiram J. Herbert

THE grasshopper sat in the summer sun, preening his antennae. Occasionally, he scratched out a clacking tune. He found it pleasant, indeed. Nothing to do but take sun-baths, eat the productive easy-got fat of the land, leap nimbly away when danger neared. A rather careless existence.

A group of ants came along, laboring under a ponderous load. Minute beads of sweat peppered their skeletal brows. They were gathering provender to store in their larders for the winter. Work, work, mused the grasshopper while the breeze soothed his whiskers, all the ants did was work. He gave an insectean chuckle.

"Ha, ha! You are fools."

"When winter comes," said the ants, "we will see who is the fool."

When winter came the grasshopper starved, for he'd not stored up any food against the winter. He'd played his summer away.

Tom Cantrell, up above Cleveland, Georgia, sat in the sun, too. He watched his father's few old-fashioned gums of bees work. It would be a good idea, wouldn't it, to make those bees work for his own profit? He could follow the plan of the grasshopper and enjoy the sun and the shade of summer, while the golden insects worked day and night to make him a living.

That was 30 years ago. He took over his father's bee-gums. He read all sorts of literature on beekeeping. He adopted the government's plan, from agricultural bulletins, built from experiments.

In that distant day bees were kept in gums. It was a crude method. Sections were sawed from hollow black gum trees, and set up for the bees. That's why they're called "gums." Tom Cantrell's father could harvest no more than 25 or 30 pounds of honey from a gum per year. The honey crop was cut out of the gums as honey was robbed from the hollow tree of the wild bees.

Young Tom waded out of his bee literature and stated to his father he could make bees produce 200 pounds of honey to the hive. His father stomped his cane on the floor and said. "That's unheard of! It's impossible. And what in the world, son, is a beehive?"

"That's a new kind of bee gum."

So young Tom got to work making the bees make a living for him, and his father lived to see 200 pounds of golden honey come out of a single bee hive in one season. But he insisted on calling them bee gums all of his earthly life. In time and tide young Tom cut as much as 300 pounds of honey from one hive. And he scattered his hives from south of Gainesville, Georgia, to above Young Harris, Georgia, and almost as far west of that meridian line.

Tom Cantrell is an amazing sort of fellow, twinkling with foresight. Thirty years ago he started out on the philosophy of the grasshopper, but he wound up a small-statured, broad-brained, calloused-handed man who never stops working, it seems. The bees, you see, have put him to work! But he's got more energy than the edges of a blitzkrieg; he's as full of beelore as a church mouse is of pulpit varnish; he climbs the Blue Ridge Mountains with an ease not complimentary to western goats. He has scattered his bee hives and bee yards over four north Georgia counties until he has exactly 670 apiarian manufacturing plants by actual inspector's count. His winged stingarees shuttlecock in pursuit of

nectar from the floral offerings of Hall, Union, Lumpkin and White counties. The breakfast toast-crunchers as far away as Boston, Chicago, Colorado and Minnesota write him personally for his sourwood honey. A Knoxville hotel has a standing order for 500 pounds each winter season. (It's a specialty in their dining room). Tom Cantrell produces as high as 28,000 pounds of honey a year. That was his all-time high. He is north Georgia's largest beeman.

However, this accomplishment does not bear out the supercilious philosophy of insectdom's kangaroo. Tom Cantrell must fool the bees, he must love and pamper them, and to bamboozle the honeybee requires work, plenty of work. Especially at the season of the year when bees reach swarming strength. The old queen, having prepared a brood for the coming year, sends out scouts to seek a new home. Then she flies out, a glistening, gorgeous, wasp-like form, and her subjects swell the escort. They will not leave their queen. At such times the beekeeper must be on the alert, he must be there to recover these swarms and house them in new hives. Otherwise, a valuable colony of bees would wing away to a hollow tree in the forest.

But the beekeeper's knowledge of the peculiarities of the insect can prevent this to a large extent. Since Tom Cantrell has bee yards in four different counties, he cannot be on hand for every swarm. So, he reduces swarming by deliberately taking the old queen out, and placing her in a new hive. He has a queen-trap, also, which prevents the queen's escape from the old hive.

All honey is like water as nectar. The bees bring this in to the hive, load it onto the combs and then set up a terrific fanning with their wings when night comes. This fanning evaporates the water, reducing the nectar to a concentrated sweet that the bees can preserve indefinitely and upon which their descendants may feed ad infinitum. A knowing beekeeper can go out into his bee yard at night and judge from the degree of the roaring sound that rises from the fanning just how much nectar the bees have gathered during the day. When the flow and the gathering is heavy this roar continues through the night. Also, the beeman can tell from the fragrance in the evening air from the hives in his yard just what type honey is being made! Each type of of honey possesses an identifying bouquet.

Cantrell gathers his honey all during the summer, according to his market demands. But when fall comes all honey must be taken; as cold weather comes on disturbances of the hives prove injurious.

As in people, north Georgia's keeper of the bees finds weak families and strong ones. Sometimes even populous hives will produce little honey. Even families of bees show laziness in cases. When this happens Mr. Cantrell takes a batch of stronger bees, or maybe a new queen, and introduces them into the lazy hive. Business usually picks up right away.

"Oh, it's the most interesting thing in the world," Tom Cantrell says. "But, my stars above, a man's got to work his hands off to keep them going! He's got all sorts of trouble to watch for in his bees. There's American foulbrood, a bacillus. When that gets in your bees you've got to burn them up. They'll gather honey-dew from the broad-leafed trees, and nectar from chinquapin—and your honey's as bitter as gall. Boy, it's work."

Mrs. Cantrell stepped out from the packing room, her hands dripping with golden honey, her brow beaded: "Are you telling me!"

The grasshopper sat in the summer sun . . . . !

Alabama.

Dr. John Dzierzon--1811-1906

By Kent Pellett

Charles Dadant once observed, "Nothing is so obstinate as a fact."

No beekeeper ever brought forward a more obstinate or disturbing fact than parthenogenesis. It is said that parthenogenesis had been observed by the ancient Greek scientist, Aristotle. But when it was first stated by Pastor John Dzierzon in the German magazine Bienenzeitung one hundred years ago, it was completely at odds with all theories of biology of that time.

Parthenogenesis is a mouthful but simply stated. Females of certain species can, without mating, lay fertile eggs. A drone bee for this reason has no father, only a maternal grandfather.

Other contributors to the magazine violently attacked the pastor for his crazy idea. When he refused to back down Bienenzeitung lost both subscribers and influence.

But at length a Swiss beekeeper, Captain Baldenstein, suggested a practical test to prove or disprove parthenogenesis through the use of Italian bees, then unknown in Germany.

So Dzierzon imported a colony of Italian bees. The experiments he performed with these bees proved to his satisfaction the correctness of his theory. After that he made more converts.

At last the naturalists, who had scorned the idea, began to fall in line and even find examples of parthenogenesis in other insects. "One of the most inconvenient facts," one of them lamented, "destroying all hope of ever discovering any general law regulating animal reproduction has thus been forced on the acceptance of physiologists."

* * * *

Dzierzon was much more than the discoverer of parthenogenesis. In many ways his career in Germany paralleled that of Father L. L. Langstroth of the United States.

They were born at about the same time. Each devised a system of beekeeping which revolutionized the beekeeping of his countrymen. Each invented a movable comb hive. Each wrote a book which enjoyed great prestige. Each was among the first to import Italian bees into his respective country.

But let's not carry the comparison too far. Dzierzon refused to accept the Langstroth hive, which was vastly superior to his own movable bar hive. His influence kept the Langstroth system of beekeeping from being accepted as quickly in Germany as it was in other countries. He also belittled comb foundation and some other modern improvements.

He lacked the Yankee adaptability of beekeepers on this side of the water.

* * * *

The love of bees was bred in him. Born in Silesia, he came of a line of beekeeping Poles. It was said that he became a pastor, the cure of Karlsmarkt, in order to have plenty of time to spend with his bees. He had twelve apiaries and a half a thousand colonies and was known as the Duke of Bees of Karlsmarkt.

There he developed his movable comb hive and worked out his system of beekeeping. There he also wrote his book, "Rational Beekeeping."

German governments sent teachers to study under him. His beekeeping methods were taught in the schools of Bavaria and Prussia. Several European governments appropriated money to spread his methods among their peoples.

In his later years royal houses competed in heaping honors on him. He received the Order of Ludwig from the Duke of Hesse, the Order of Francis Joseph from the Emperor of Austria, the order of Wasa from the King of Sweden, and the Order of St. Anne from the Emperor of Russia. For a bee man, he was in a position of favor.

Dzierzon, when he was almost ninety, went to a beekeepers' congress at Salzburg, where he defended parthenogenesis with vigor.

It is interesting to note that though the kings and their orders are now nearly all forgotten dust, parthenogenesis is still with us.

A True Bear Story

By G. H. Cale

FOR years I have read about how bears are a menace in bee yards in parts of the country. How much of a menace was never driven home to me until we established a commercial apiary in northern Minnesota on the banks of Rainy River. Now I know what bears can do.

It is quite a satisfaction to dispose of the bears and see them hanging up as this one is in the picture on this page. It is not so much satisfaction to go into bee yards and see damage like that shown in the top picture but this is a true picture, apparent of what can happen.

One year bears destroyed honey, combs, and equipment causing a loss which, including the loss of honey and replacement, totaled over $700.00 Then we resorted to two wire electric fences at yards which bears are apt to visit. Sometimes they work well. If the battery becomes dead, the bears get in; if there are low spots, the bears get in, sometimes they get in anyway. However, a good stiff shock of an electric current will drive a bear away so electric fences must be well maintained and properly strung if they are to be effective.

The electric fences help considerably but cost of putting an electric fence around every one of over 30 yards is quite a cost and sometimes we guess wrong about which yard bruin will visit. Most years we guess wrong.

This year one lean, hungry, 500 pound blute tipped over several colonies but was scared away, possibly by the noise of one conoly toppling over the other, since all were heavy with supers. He came back the next night but had a reception commmittee. One shot wounded a paw. That was enough. He raised the other and came full tilt and a bear running as fast as he can run, can go almost as fast as an automobile. At any rate he meant business, so four guns barked simultaneously and down he went.

A mother and three cubs got into another yard and had a wonderful time, not much damage, just one hive knocked over but they had a fine picnic on the honey. The neighbor boys went to the yard the second night and disposed of all of them. It is unusual for a bear to have three cubs so people came from miles around to see the bears lying in style.

Apparently one lone bear did the best job of all. Entering a yard where the honey had been removed must have made him sore about it. At any rate he knocked 40 out of 50 hives all over the landscape so that the damage was really serious. Fortunately the crop had been removed.

Often it pays to leave a single hive over-turned, post a lookout, because the bear will usually come back. In Minnesota, with a bounty of $25.00 and with the additional value of the fur and the meat, it was always possible to get somebody to watch. Nearly always they come back the second night and invariably will go to the hive or hives they have already upset.

Bears usually are worse in fall just before winter and seldom do much harm at any other time.

Anise-Hyssop Wonder Honey Plant

By Frank C. Pellett

IT was in the December 1940 issue of American Bee Journal that we first told the story of anise-hyssop. Again in December 1943 we repeated the account with the results of further observations. After eight seasons of observation of anise-hyssop in the American Bee Journal test garden we want to add reports of its behavior in other locations.

For the benefit of the many hundreds of new readers we repeat the story of its past history. Briefly it is this: In the Beekeepers Journal for March 1872, H. A. Terry a pioneer horticulturist and beekeeper gave an enthusiastic report of the fine crops of honey harvested in the vicinity of Council Bluffs, Iowa, from this plant. He reported a great abundance of fine honey with some of the fragrance of the plant. After reading this account, the writer started a search for plants for the test garden. I had seen it growing in Western Canada and had reports of as much as forty per cent of the crop coming from this source in the vicinity of Edmonton, Alberta.

Although anise-hyssop **(Agastache Foeniculum** or **anethiodora)** still grows wild in many places in the Dakotas, Minnesota and Canadian provinces it was many months before it could be found. Apparently it disappears rapidly with the cultivation of the soil. Finally W. J. Bougen dug a few plants for me from the wild about 180 miles north of Winnipeg.

Each year since we have increased the size of the plots and always the bees work the flowers more consistently than any other of the 500 plants tested in the honey plant garden. The bees visit the flowers from dawn to dark in wet weather and dry weather from June to October. When Dr. Park tested the sugar concentration in the nectar the reason was very clear. He found a very high percentage of sugar, equalled by only a few other flowers.

So much interest has resulted in the attraction of this plant for the bees in the test garden that the Sioux Honey Association set aside funds for a research project at Iowa Agricultural Experiment Station. The plant has been found to be the source of essential oil and it is hoped to determine whether the yield will be sufficiently large to make it worth while to cultivate commercially. The adaptation to different soils, yield, cost of growing and distillation and probable demand are all the object of study. Results thus far do not encourage commercial cultivation.

The staff of this magazine has sought information as to the value of anise-hyssop to the bees in other situations. Many beekeepers have planted the seed over a wide expanse of country. Reports have come to us from widely scattered points and we hope to receive others. From a surprisingly large number of places the reports are enthusiastic. It appears that anise-hyssop does well on a variety of soils. A few have reported near failure as is the case from southern California. On the other hand good results have been obtained as far south as Alabama and an enthusiastic report comes from Kentucky.

It is interesting to note that Mr. Bougen reports that he failed to find bees on the flowers in the wild in Manitoba in 1945. Thus we find that it does not always yield even in its native habitat. In our garden it has never failed to be swarming with bees during its period of bloom for eight successive seasons.

Blossoms of Anise-Hyssop

In the following we are able to present a fair average of the reports. It will be seen that in a few localities it yields at times while not at others. In some places it fails to attract the bees at any time. Taking all reports we find a larger number of favorable indications than for other honey plants. It is to be hoped that some commercial use can be found for it as otherwise it can never be important.

Anise-Hyssop Reports

"I have plants on a sandy loam soil. The bees work them continually from about six o'clock in the morning until eight in the evening. The plants started to blossom about June 10 and some are still in bloom, October 4."

Worth L. Kimball, Michigan.

"Bees were busy on it all day long for about three months. Plants from seed sown this spring are in full bloom October 6, and have been in bloom for about thirty days. We had a dry spell of about thirty days and our Ozark soil is full of gravel and rocks but anise-hyssop remained green through it all. It stands drouth well."

John E. Johnson, Missouri.

"I bought anise-hyssop seed in 1943. The bees did not work it so well the first year but this year they worked it better than sweet clover. It was planted on heavy soil. I will plant a bigger piece next year."

John Pohl, Missouri.

"The bees sure do work it."

A. J. Schubert, Missouri.

"I have anise-hyssop on two entirely different soils; one a black that gets real sticky when wet and the other that looks as if it might be diggings from cellars. It is red with gravel in it. Both fields have proved wonderful for anise-hyssop. Some say it doesn't bloom much the first year. Well mine did. It bloomed from June until frost. The bees work it from dawn till dark. They work it rain or shine, and I mean that as a fact. I have watched them closely all summer and even in the rain the bees were working like mad. I have about 200 pounds of honey per hive

Anise-Hyssop blossoms from June to October.

and we believe that a lot of it is anise-hyssop honey."

James Beecken, Illinois.

"I have a small bed of anise-hyssop some of which is two years old. The bees work it very little. The soil is a sandy clay with enough clay so it gets very hard in a dry season."

B. A. Chandler, Maryland.

"Anise-hyssop has done well here. It blooms from June to October and is constantly visited by the bees. Our soil is clay, somewhat acid and full of stones."

Frederick Hahman, Pennsylvania.

"We did very well with the anise-hyssop. It bloomed well. So far it has not attracted honeybees much, though bumblebees have visited it freely. With a larger show of it next year perhaps it may appeal to honeybees."

Herbert Mace, Harlow,
Essex, England.

"Anise-hyssop did not attract the bees this year but it did last year from dawn to dark. It is not a sure plant for use here."

M. R. Vikla, Minnesota.

"The season of 1944 was the only time in five years that bees worked anise-hyssop to any extent. Our summers are too cool. Last summer was warm and after June was dry. It is planted on silty loam, river bottom land."

Lew Frey, Washington.

"The bees visited it freely when first blooms appeared in June and continued until about August 1st. Since that time they have paid little attention to it. The plants are on a grey clay soil."

H. L. McClain, Tennessee.

"Anise-hyssop is about the best plant for the bees west of the Rockies. We grew about 100 plants from a packet of seed. They started to bloom about July 15 and continued until October first and were covered with bees at all times during the day."

B. D. Reser, Washington.

"Anise-hyssop grew very well and had plenty of bloom all summer till just before frost. The bees worked it all day long. The soil glacial deposit, ten inches of tillable soil under which is a sort of hard pan. Subsoil, pure sand and gravel. Normally an acid soil but I limed it and added a small amount of commercial fertilizer."

F. R. Arnhold, Wisconsin.

More Funds for Agricultural Research And Marketing

Passed during the final hours of the last Congress, was the "Flannagan-Hope Act" which is an amendment to the Bankhead-Jones Act of 1935. According to the provisions of this act, there is appropriated during the next five years, a total of $120,000,000.00 to be used for further research into the problems of agriculture with the idea of promoting the welfare of the farmer and his soil, to the end that prosperity and employment may be maintained at the highest levels.

The fund in all instances is being distributed to our 48 states and our territories under certain provisions to be used by the U. S. Department of Agriculture. In all cases where funds are assigned to the state, they must be met by similar amount of funds on the part of such state or territory.

The second part of the Act has to do with agricultural marketing and has to do with investigation and research into the best methods of processing agricultural products, their preparation for the market and their distribution. In such case also such funds as spent shall be met by similar amount of funds allocated by the states or territories themselves.

There is not sufficient room in our columns to give a complete summary of the provisions of the Act as passed However, its enactment may have far reaching results on our beekeeping economy if allocations are made, and they are bound to be, along the lines provided for by the Act.

Research in legume crops may mean permanent pastures having high concentrations of honey producing flora, soil conservation may introduce varying shrubs, plants and even trees which have been considered both from the conservation standpoint and from the standpoint of their availability as honey producers. In addition, there may be investigations into the possibilities of the use of honey plants on roadways, railroad right of ways, and in ornamental plantings with the definite idea of combining beauty, usefulness and honey-gathering qualities.

Here again we need the services of that organization which has done such fine work during the past year, namely, the National Federation of Beekeeping Societies.

Our American Beekeeping Council and the secretary of our National Federation, who did such excellent work on getting releases from the ceilings on honey, undoubtedly will devote some of their time to consideration of and consultation with those who will have the duty of putting into practice the provisions of this Flannagan-Hope Act. Beekeeping should, as a consequence, benefit.

Subduing Bees

Pour one ounce of carbolic crystals (Phenol) into a six ounce bottle, then add 3 ounces of camphor shavings. Shake until dissolved, sprinkle on cloth, draw over frames. If combined with water for the hands, it is a first rate sting preventive. I have used it undiluted.

J. T. Caso, England.

Beekeeping Barriers Battled

By Clarence Tontz

WITH a force of nearly five million colonies of bees, but dogged by obstacles, the U. S. beekeeping industry has been striving in vain the past two years to placate the national sweet tooth.

Chief hindrance has been inclement weather. The sweet clover-killing weevil, sitona cylindricollis, and the war-time program of supplanting large areas of sweet clover with soy beans also has curtailed honey production.

Favorable progress has been made in breeding disease resistant bees so that not only control but eventual eradication of American foulbrood is planned. Scientists have found that resistance is not a physiological characteristic but depends on the housekeeping abilities of the bees; the diseased portions of a comb are simply gnawed out by the highly resistant bees.

Currently over-shadowing American foulbrood as a notorious bee disease, Nosema is coming to the forefront as a killer of adult bees which results in curtailed brood production, loss of queens, and poor wintering. As yet, there is no cure for Nosema. The colony recovers only after all the sick and dying bees have crawled from the hive. The malady seldom lasts more than two weeks within a hive. The best factor in combating Nosema is a colony strong in numbers.

An additional increasing menace to beekeeping, notably in the western states, is the poisoning of honeybees due to promiscuous application of insecticide dusts which sometimes drift three miles from the area sprayed. Should beekeepers in areas threatened by poisonous dusts be forced out and crowd beekeepers in safe areas, there will be two dire results: The area from which they move suffers a reduced vegetable and fruit crop from insufficient pollination; and in the over-crowded area the honey crop average is lowered.

The insecticide problem could partly be overcome by a machine designed to apply and strictly confine poisonous dusts to row crops without injuring the plants. With no laws limiting uncontrolled spraying California beekeepers have formed a "poison protection committee." Funds collected by the committee will be used to support court cases that stand a more than reasonable chance of winning.

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California.

Honey Plants In Wet Places

A New York reader writes as follows—Perhaps you could tell me what I might plant around a pond on my place for a honey plant. The pond is about two acres, mud bottom, brushy edges, willow and alder swamp adjoining. No cattails or much vegetation in the pond itself; a few willows. On two occasions I seeded it to wild rice and got a fair stand. Each time wild ducks uprooted and ate the rice seedlings. Do you think purple loosestrife would succeed here?

Answer. Purple loosestrife is the best plant I know for bee pasture in wet places. It has been naturalized in many localities along streams and in boggy spots in New York and other northern states. The honey is not of as good quality as clover although in some places the bees do harvest fair crops of rather good honey from it.

While favorable reports have come from New York the biggest crops from purple loosestrife are reported from Ontario and Michigan. Perhaps it may be because of large acreage within reach of the bees.

The seed is very fine and should be scattered only on spots where the soil is always wet as much seed can be wasted when planted in unsuitable areas. It grows naturally on wet land or in shallow water but does not often spread very far from the water. It does well on high ground in our test gardens but the seed for such locations should be started in the greenhouse and the young plants transplanted to the open after they are well rooted.

One beekeeper from Massachusetts writes that he has planted it along the edge of a small stream and that it has spread slowly down the stream for fifty miles thus making good pasture on waste land.

Willows are among the best sources of nectar and pollen in early spring and they are well adapted to such places as our reader describes. The bloom comes so early in spring in the north that the bees are often unable to fly freely enough to get the harvest.

Seed of purple loosestrife has been frequently advertised in the classified columns of this magazine.

Frank C. Pellett.

Roll the Drums

George Smith sends an item from Chelmsford, England which tells how 18 swarms of bees were captured by making a ringing drum roll with a fire-shovel and a stone. He says also a neighbor in Central Maine has brought in as many as 20 swarms in a summer in a similar manner and he asks "What have your readers to say about this kind of capturing?"

When I was a boy, we used to capture swarms by beating on a dish-pan and wetting the bees with a spray from the garden hose. I never knew whether the water or the sound brought the results but most swarms clustered and stayed long, making them easy to get. Experiences along this line are interesting.

The Worker Bee

By Dr. J. E. Sweet,

Cornell University Medical College

PERHAPS no other subject in the realm of human knowledge has engaged more minds of diverse interests and of diverse training than has the honeybee; theologians and engineers, poets and scientists, statesmen and just folks, have all learned lessons from her.

The greater number of all these people seem to have found the mystery of the queen bee the most engaging and the most challenging of problems. But I have wondered whether this interest in the queen does not detract from a still more profound mystery, and one which, were it solved, would be of immediate practical value to the beekeeper—the mystery of the worker bee.

Every species of living creature which has attained the stage of evolution in which the sexes are found in separate individuals must possess perfect females, capable of reproducing the species, else, of course, the species dies. Therefore, as I see it, the queen bee is a perfectly natural, perfectly normal requirement in the life history of the hive. Just how she gets that way, whence come the stimulus and the energy for her incredible egg-laying ability—there are still mysteries enough to interest the queen fancier!

The higher forms possess organs called the ductless glands, whose function is to secrete into the blood stream their specific products, called hormones, which control the growth and development of the body. In a creature such as the bee, born full grown, with a skeleton on the outside of the body which inhibits further growth, such ductless glands would be useless to the adult individual.

It is known, however, that in the primitive forms, when these cells are first set off from the digestive tract to perform their specialized function, they retain a connection with the digestive tract, a duct. Thus in the bee, the glands of the head and thorax have ducts which carry the products of these cells to the mouth. These products, these hormones, of no use to the grown body, could be fed to the young at the only time when growth and development can take place, that is, in the larval stage.

Such, I believe, is the function of the glands which produce "royal jelly,"—glands which, I suspect, are the architypes of our pituitary, thyroid and thymus glands.

A perfect food elaborated in the bodies of the nurse bees, containing all the essential growth elements plus the needed hormones, would explain the development of the queen, the perfect female, and perhaps also, later on, her astounding female accomplishment in egg laying. But what explains the rest of the eggs of female potentialities, the eggs which develop into workers?

All of the queen mother's fertilized eggs, the eggs of female potentialities, must be exactly alike. They are treated by the nurse bees in the same way for the first three days—with the exception that the egg destined for royalty is given more room—and then the food for the future worker is changed. Less room, less concentrated food, may, perhaps, be factors in the development of the worker. But there is one element in the worker's food not present in the queen cell—pollen. Could it be that there is something in pollen, in addition to the necessary nitrogen content, which explains the nature and development of the worker bee?

There are some facts in our incomplete lexicon of knowledge of these things which may bear upon the problem. It has long been known to the practical dairyman that when a cow conceives twins of opposite sex —one bull calf, one heifer calf—the heifer will, in the majority of cases be sterile; she is called a "free-martin." Since the heifer calf is not always thus imperfect, the "free-martin" cannot be simply explained as the result of having developed with a brother, something more must occur in the majority of these cases causing the sterility of the female twin. I believe that veterinary pathologists explain the free-martin as a result of an anastomosis, a union between the blood vessels of the two placentas. The female calf thus comes under the influence of the male hormone produced by her brother, and this influence inhibits her own complete development. In the absence of such placental union she develops normally as though she were alone in the uterus.

Experiments have shown that if hen's eggs are injected with a male hormone during incubation, the pullets which hatch from these eggs are neither male nor female, but "intersexed," i.e., showing some of the characteristics of both rooster and hen.

It is sometimes indicated in human medicine to treat a woman with male hormone; among the results of this treatment have been noted the development of certain male characteristics, growth of the beard, change in the female type of body hair, etc.

It is known that plants secrete male and female hormones.

In view of the above facts is it too much to propose as a working hypothesis that the pollen fed to the worker larvae, pollen being the male element of the flower, contains enough androgen, or male hormone, to shift these larvae from perfect females to imperfect females, or "intersexed" individuals?

I offer this idea in the hope that

some beekeeper, more competent than I in the handling of bees, better equipped than I to carry out control experiments, may be interested to see how effective a mixture of androgen and soy bean flour would be as a perfect pollen substitute. I would suggest trying methyl testosterone. My only warning would be to remember that very small amounts of material would be all that would be needed to influence an organism as small as a bee larva, while large amounts might completely negate the result.

New York.

Beehive Heating

By Paul S. Grierson

THE idea of furnishing artificial heat for a beehive in winter and spring has been tried out without much results. Anything which adds to the cost and does not increase profits, of course, must be avoided in commercial operations. The present experiment was an outgrowth of a need to solve a problem in one particular spring season. It became a problem of preserving a small colony against unfavorable weather. We resorted to artificial heat.

We did the job this way: Two small resistances were concealed beneath a wire mesh in the bottom of the hive, wired in series with a thermostat (taken from an aquarium) placed near the top of the hive. A small 115 volt lamp was put in parallel with the resistances so that it would burn when the heater was operating. The thermostat was set to go on at 70° and off at 72°.

The following season, results with the new swarm were surprising. The bees did not need to cluster, the queen laid eggs generously, the colony prospered from the start, there was no undue loss during flight, no more brood was chilled and colony morale was excellent. For three years with out changes, results continued to be favorable.

If a small amount of heat could do so much for a small experimental colony, why could not the same system be incorporated in our standard hives to help the morale of, at least, the weaker units and possibly get them ready for the tulip poplar flow in late May? Even strong colonies are not usually ready when this surplus flow begins.

The success obtained at 72°F. seemed to decide the proper temperature to be used in this new adventure, and 72°F. it was. Since electric current costs money, we decided to try a 25 watt heating unit. A test run on an empty hive consisting of one brood chamber showed that at a 40°F. temperature outside, the temperature in the hive reached 60°F. and stayed there. At an outside temperature of 50°F., the thermostat began to operate occasionally to control the heat at 72°F. Should we have had a cold spell with the temperature, say 30°F., we realized the hive temperature might not be above 50°F., but even this might save some of the brood. The heater as constructed was regarded as suitable for a trial and so one colony was put into operation.

Since top entrances were the rule, the heating element and thermostat were mounted on the bottom side of an inner cover with one hole cut in each side, as shown. Two holes were for circulation of air and were covered with screening to prevent the bees from going below. No holes or entrances were in the bottom board, and the top entrance was left restricted just as the bees had been wintered. (The exact areas of our top entrances have varied from two ⅜" diameter holes to a space ⅜" by 4" wide. We now favor the larger opening.) All top entrances are really in the top, not 2" down from the top. Fig. 1 shows the actual assembly of a heated colony before the second brood chamber is put on. We mount these about April 1 to 15.

On this first outdoor experiment, the weakest of three colonies was chosen. If the weak colony was benefited, the result should be readily apparent. They were. When the main honeyflow started on May 15, the heated colony was stronger than the second colony and equal to the strongest of the original three.

In 1941 two of four regular colonies were heated with results that confirmed those of the previous year. No hives were heated in 1942. In 1943, it was decided to heat all colonies. Heaters were started on March 14 and removed May 23, about a week before the honeyflow from tulip poplar.

While the spring of 1943 was extremely cool and moist in our neighborhood, and additional feeding was necessary, still the colonies behaved well and expanded their brood nest in a most satisfactory manner. There were periods during the heating test when no flights were possible for as much as five days in a stretch.

The use of an inner cover in making a heater seems justified. They are easy to assemble, convenient to store away, electric parts are protected and the heat is well distributed. We believe some conditions might suggest mounting the parts inside of a standard frame enclosed with wire screen. The bees, however, do not like exposed wires carrying an alternating current, and they will try to destroy the wires when the current is flowing.

The use of a heater for a bottom entrance hive seems all right so far as the circulation of air is concerned, but an entrance must be provided above the heater frame and the regular bottom entrance completely closed. Since a small top entrance in any type of hive will prevent the accumulation of moisture, there need be no quarrel with the advocates of either type entrance when preparing a hive for a heater.

For those who want to experiment, a wiring diagram is shown. The essential parts are an inner cover, 10 feet of resistance cord having 57 ohms per foot or the equivalent, one thermostat, two terminals and some small staples. The diagram shows two thermostats in series for safety with a small condenser to eliminate noise in local radios. Our heaters now have all features shown in the diagram.

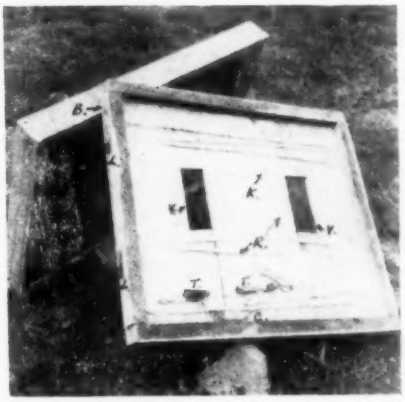
The bulb is helpful in showing when

the heater is active and in one case gave warning that the thermostat had failed to open. Since the bulb is paralleled with part of the heating circuit, it can burn out without causing trouble. We found that by using a bulb consuming .25 ampere at 2.2 volts (2-cell flashlight) it would burn dim when it was paralleled with about two inches of the resistance wire. Two inches has a resistance of about 10 ohms. Luckily the heaters consume only 25 watts and a sticky thermostat is not likely to cause anything more than a small riot among the bees which sense that their home is too hot and start their own ventilating system working overtime. We found the double thermostat fully overcame the recurrence of that accident.

In normal times, the resistance wire costs about 10 cents and the thermostats 12 cents each, the condenser 8 or 10 cents and the bulb 5 cents. In our case, the wire and thermostats were purchased from a manufacturer of heating pads. If light bulbs are used for heating, be sure to burn them at less than normal voltage and shade the light from the bee compartment. When connecting resistance wire, be sure to make a good mechanical connection and then solder if necessary, as solder does not take to resistance wire. Two battery clips or radio terminals and two pieces of wire screen can be obtained locally. If you live in the South where the electric current does not carry one leg of the circuit grounded, it is advisable that a local electrician be consulted.

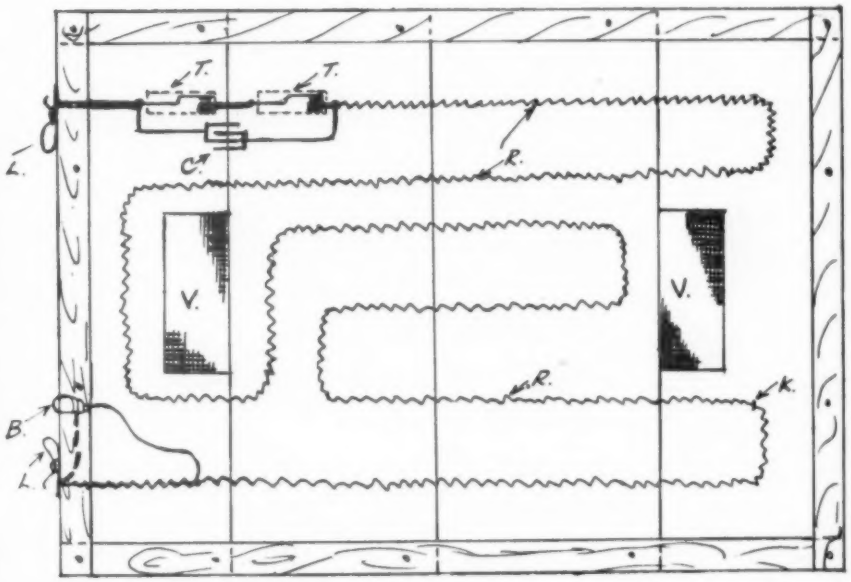
Conclusions

Under what conditions can a heated colony be justified? The cost need not be excessive. The heaters operate almost wholly at night and on odd days during cold periods. Probably strong colonies will not be benefited as the heat will definitely speed up brood rearing if food is present and many beekeepers prefer their colonies to reach gathering strength just as the main flow begins which may be in June or July. The one person who can well ponder the heater problem is the queen breeder. His is the ideal situation. With plenty of food, (honey and pollen), the queen has unrestricted run of the hive, no eggs or brood are chilled and drones can be produced much earlier than otherwise.



Legend for Figures 1, 2, 3

B. Lamp bulb.
C. Condenser.
K. Tacks.
L. Line Terminals.
R. Resistance.
T. Thermostats.
V. Ventilation.



Land In Ecuador

The Department of Public Lands and Colonization of the Ministry of Economy of the Government of Ecuador, South Amercia, announces that 125,000 acres of rich, productive, but uncleared land in the Santo Domingo de los Colorados area is now available to North American and British settlers. Each adult may obtain 50 hectares of approximately 124 acres of this land, free except for a modest commission-transfer charge.

Elevation of land is over 600 feet. Average temperature is 72 to 88 degrees F. Less than 125 miles from Quito, with road connections to or adjoining an all-weather highway linked with Quito, soon to be linked with Esmeraldas on the Pacific coast. Ample rainfall and virgin soil.

Interested parties should address Dr. J. M. Sheppard, Co-Intermediary, Casilla 315, Quito, Ecuador, South America.

—•EDITORIAL•—

MERRY CHRISTMAS

SLOWLY but surely the country is returning to its usual peacetime activities. The scars of war are slowly healing and its painful experiences are fading into the background. There are many adjustments still to be made but much of the wreckage of the conflict has been cleared away.

For the first time in many years we can look forward to a normal holiday season. Children will hang their stockings or look forward with anticipation to the Christmas tree. Once again it seems quite appropriate to wish our readers a very Merry Christmas.

ROADSIDE BEE PASTURE

WITH about 100 acres of public road within flying range of the average apiary, we find a good opportunity to stabilize the bee pasture. The selection of suitable plants to occupy the thousands of miles of highway lands will insure prosperity for the beekeeper in many locations where honey production is precarious.

The use of permanent low growing plants which are the source of honey to replace the weeds that so often require frequent cutting will serve to reduce the expense to the public while offering pasture for the bees. Honey from the sages of California has long been famous in the markets. There is a wild sage from Europe, Salvia pratensis, which once established will maintain itself in competition with weeds yet does not itself become a pest. It is attractive in bloom and appears to be one of the best of honey plants. It flowers for about a month following fruit bloom and dandelion and fills the gap before the opening of the clover flow. It appears to be entirely hardy and will thrive where the tender California sages will fail.

Marjoram is another old world plant which holds its own against competition and which provides good bee pasture at a later season. Neither of these plants grows tall enough to require mowing and both add to the beauty of the countryside when in bloom.

Highway officials are interested in plants which prevent soil erosion, which require little attention and which may also serve a useful purpose. The European sage and the marjoram appear to be ideal for such a purpose as will the new clover, (*Trifolium ambiguum*) if it proves adaptable to average soils.

SOUTH AGAIN

ONCE again the beekeepers are going south for their national convention. Several years have passed since the last meeting in the southland and many are looking forward to combining a winter vacation and attending a big bee meeting. When the migrating birds move southward we watch them regretfully and wonder why mankind lacks the ability to so arrange his affairs as to escape the cold as successfully as the songsters do.

Tampa, Florida is the place and January 13 to 17, 1947 are the dates. There is every indication of a big crowd and a successful meeting. Now is the time to make plans to join the southward movement and get acquainted with the big hearted boys who produce the honey from tupelo, gallberry and orange. They will show you a good time.

A similar meeting held at Valdosta, Georgia, in 1934 was one of the most successful meetings ever held by the national organization and many who attended that meeting are looking forward to going to Tampa. At Valdosta was held the first roundup when all groups, National Honey Producers League, Southern Conference and American Honey Institute met together. The result was so pleasing that such meetings are likely to continue on rather frequent occasions.

ACTION AND REACTION

IN the long run the present high prices for honey may prove to be very unfortunate for the beekeeper. No political party can repeal the law of action and reaction. Reasonable prices now might well insure a prosperous market later on when normal competition returns. Indications, however, are that honey will go so high in many markets as to price itself clear outside the home

— • EDITORIAL • —

budget of the housewife on whom we must depend.

What is now happening to butter should be a warning to those who think that the sky is the limit for prices. Thousands of housewives who have always been prejudiced against a butter substitute are now buying oleomargarine in protest against dollar butter. To their surprise they find that the substitute is better than they thought and many of them will continue to use it instead of returning to their former habit.

When one pound jars of honey retail at sixty cents per pound it is the storm signal for the return of four cent honey in the not distant future. It will not long be possible to retain the present rationing of sugar with other restrictions removed. With a free market for sugar and corn syrup the housewife will quickly show her resentment of excessive honey prices.

The soft drink and candy manufacturers who are bidding for the present limited supply of honey will have no interest in our product when they can buy cheaper sweets. If we alienate the housewife it will be hard to regain her confidence and another period of low prices and hard times for the beekeeper lies ahead. For every action there is a corresponding reaction.

HONEY USE—LIMITATION ORDER REVOKED

ON October 25, 1946, the United States Department of Agriculture announced the revocation of 16 War Food Orders, among them WFO 47 and 47.1 which limited the use of honey in manufactured products. The press release stated that "the action taken by the Department is in line with President Truman's announced policy of accelerated decontrol of prices, accompanying general relaxation of wartime government regulations and restrictions." In accordance with this action, there are no longer any restrictions to the sale or use of honey in any quantity by any individual or firm. It is urged, however, that when selling honey beekeepers keep in mind the desirability of developing and maintaining outlets for honey that are likely to continue permanent users of honey even after other sweets have become more abundant.

LUMBER SITUATION SERIOUS

NOW that OPA controls are off, there seems to be an idea on the part of many that beehives will again be available even though at an increased price. The CPA controls allocating lumber, however, still are in effect and it is these controls that are continuing to hamper beehive production. It cannot be stated too forcibly that we must continue our activities with every means at our command to remove these controls—that there will be virtually no beehive production in 1947 unless some change in regulations comes in the very near future. And no change will come without widespread effort. Beekeepers are urged to contact immediately their representatives in Washington to request that this situation be remedied now.

NEW FORAGE CROPS

WHILE there has been a decline in the acreage of sweet clover in recent months, the prospect is not all dark. New forage crops are coming into use, fast as seed is available, which promise good bee pasture in favored situations. Bird's-foot trefoil is now accepted by agronomists as a valuable addition to our meadows and pastures and a large acreage would be seeded this spring if seed could be had. At present the seed is very scarce and high in price and its spread will be slow for this reason.

Ladino clover is another legume which is attracting favorable attention. It is a giant form of white clover and does very well on rich soils with ample moisture. Seed of this plant is also high in price and some who have been able to establish fields of it have made large profits by harvesting the seed. Reports from New England indicate that Ladino clover is making commercial honey production profitable in some neighborhoods where previously but small crops of honey have been harvested.

The Wagner pea is promising but the limited supply of seed, and the fact that two or three years are necessary to get it well established, will require many years before it becomes important. Those inclined to experiment and willing to wait may well give it a trial.

Men of Today

Elton James Dyce

Although a young man, Elton James Dyce could almost be called the father of honey co-ops. for he has probably had a hand in starting more in Canada and the U. S. A. than any other one man. Proper preparation of produce for market seems to have been his main life interest, starting since his early teens when his father shipped thousands of barrels of apples to the British Isles.

Ontario A. C. has produced many leading bee men and most of those we know well were starting under and received their enthusiasm for honey production from the late Prof. F. Eric Millen, as did Dyce. Before completing undergraduate work he decided to become a commercial producer and started near Meaford, Ontario, but upon graduating Millen enticed him with a job assisting in inspection, teaching and research. Having built up about 450 colonies he sold all but 200, and returned to Guelph but his father, then 70 and never before a beekeeper, took care of the bees until he died at the age of 86!

The Macdonald Scholarship for Ontario provided means for a year of graduate work at McGill University at Montreal. Dyce received his B. S. A. at Guelph, his M. Sc. at McGill and his Ph.D. at Cornell University. All were for studies along beekeeping or related lines. From the first Dyce has kept in mind we produce about 200,000,000 lbs. of honey and have 113,000,000 population to eat it while in Canada Dyce claims they produce about 30,000,000 lbs. and have but 11,000,000 population to consume it. This necessitates export and drastic means to support honey prices in which Dyce and the Ontario Honey Producers' Co-op. at Toronto have worked on since 1923. Honey exported from Canada jumped from a few pounds annually to several million each year, due mostly to proper packing, grading and fine granulation.

The problem of granulation, very important in honey trade with Great Britain, became paramount and Dyce moved to Cornell and worked under Phillips and was granted the Schuyler Fellowship in animal biology enabling him to spend a second year there, receive his Ph. D. and election to Sigma Xi. Upon his return to Ontario in 1931 the Co-op. put in a processing plant to handle honey, cutting their fermentation losses $10,000 annually and processing about 80% of their crop. This success prompted other Canadian provincial co-ops. to process honey and in 1934 Dyce was sent to England by the Ontario government to assist buyers and packers there to use latest methods for handling honey.

When Millen died suddenly in Ontario in 1934 Dyce succeeded him at Guelph until 1940 when he came to New York state to help the Finger Lakes Honey Producers Co-op. of Groton get started with their organization. Their success indicated that processed honey can be marketed as successfully in this country as in Britain. In 1942 Dyce was appointed extension apiarist at Cornell and in his spare time has helped three other organizations start honey processing plants.

Upon the retirement of Dr. Phillips in June of this year, he succeeded him as head of Extension of Beekeeping at Cornell.

Married in 1927 at Guelph to Evelyn Elizabeth Buchanon of Mt. Forest, Ontario, Dyce has two children: Rolf (16) and Marilyn (13). Rolf has 30 colonies of bees and plans increase. He also likes amateur radio and gymnasium work while Marilyn is an outdoor girl and loves horses and owns a "western." Both like school and music.

Dyce's publications deal mainly with fermentation and crystallization of honey, disease and his writings on various phases of the industry. He is keenly interested in preparation and marketing of honey which he considers the most neglected features of honey production, since he claims we have taught production of two pounds where one developed before but haven't helped much to sell the increase. He hopes to see honey eventually sold liquid, processed, in comb and in combination with other products. With this leadership the future of beekeeping sales is safe.

Kennith Hawkins.

We Need Young Men

It is my opinion that one of the greatest needs of the beekeeping industry is young men with a vision, capable of bringing the industry abreast of the times. The country is full of young veterans looking for what to do. Can the industry offer them enough? Will they learn the "little" some of us old-timers think we know?

Uncle Sam, out of the kindness of his heart (and our pocket books) is giving thousands of veterans a college education, other thousands "training on the job." This is the chance to help some of these young fellows into the bee business. We are training two veterans and hope to have another one soon and have been working on a training program for them. We want to get them interested in bees.

Should they study bee books? should they have written examinations or just discussions? Your suggestions will help with this program.

Roy Weaver, Texas.

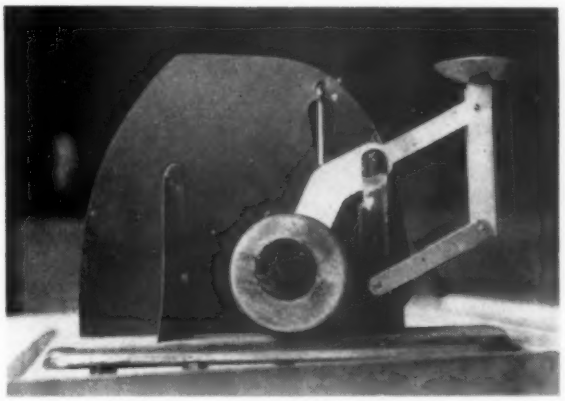
Alfalfa Beauty Is for Bees

(From the USDA Clipsheet for April 28, 1946, Release).

In a screened greenhouse alfalfa makes a showy garden flower. As a hay plant it is not such a showy plant, because farmers mow it before it comes into full bloom. It would not make a good garden display because it would be open to the attention to the bees and there would be enough bees to spoil the show of flowers.

HOW TO DO IT

Balance Scales For Comb Honey Sections



Most people are familiar with the small balance scales sold by chicken hatcheries. They are so made that they show the weight of eggs from 1½ to 3 ounces. It is a simple matter to alter a set of the scales so that they may be used for checking the weight of section honey. To do this, remove the round, light-weight counter-balance at the back of instrument. Then replace this with about 7 or 8 two-inch iron washers, held firmly in place with a small "stove bolt." Next, you should calibrate the front with three marks, showing the net-weight of a section. The wood weighs an ounce, if you arrange it so that a 16-oz. section is the top mark on your scales, the net weight would be 15 ounces. This will give you the advantage of marking two or three more spots on the front dial for lighter-weight sections as you will have a range of two ounces. I have another set of balance scales which cost many times as much, but I like these better since they are very sensitive to small changes in weight, and show a balance very quickly. The set I have described can be put into operation at a complete cost of a little over one dollar and are very handy for the small operator.

Harry T. Starnes, Crawfordsville, Indiana.

FEEDING SULFA

Feeding sulfathiazole syrup to bees in yards where several hundred colonies are being operated is a task. It can be made easy by filling combs with dilute syrup at the honey house. We fill combs by immersing them in a barrel or container of syrup with the opening of the cells of the combs pointed upward. Then gently knock the comb against the side of the barrel and the air bubbles rise to the top and every cell is filled. Turn the comb over and repeat for the other side. This is much quicker and more thorough than sprinkling. It is a simple matter to fill three or four combs in an extracting super and one hundred or more gallons of syrup can be fed each day in this way when combs are in the supers or taken out to the bees, or when combs are being placed in the brood nest. This is an easy way to get sulfa to the bees.

Herbert Studier, Minnesota.

GASSING CHAMBER

A casket shipping crate makes an ideal and economical gassing chamber for storing two hundred Langstroth brood frames. The corner cracks which are very small are easily sealed with roofing or grease and covered with newspaper. Newspaper is somewhat repellent to wax moths. The crate will store the equivalent of four five-body stacks and save the work of sealing the cracks each year. The crates can be obtained at any mortuary for about a dollar.

Alfred H. Holz, Nebraska.

TO KEEP FRAMES FROM COMING APART

When frames become old and nails get loose the bottom bar is apt to pull off. To prevent this I use 4 horizontal wires and 4 vertical wires. A small hand drill is useful for boring the holes for vertical wires. After the foundation has been placed in the frame and the cleat nailed on, the wire embedder is run across the wires both ways.

Brood frames wired in this manner can be used for years without any danger of coming apart.

W. E. Crampton, Texas.

STARTING CAR IN COLD WEATHER

Most beekeepers, I suppose, use a car and truck, and sometimes it is difficult to get the car started in cool weather. The best trick I have found is to use a 5 or 6 amp. battery charger mounted on the wall of the garage and arranged so it may be plugged into the car with correct polarity. While the battery is charging, use the regular procedure in starting the truck. The added impulse from the charger will do the starting in cold weather.

Harry T. Starnes, Indiana.

AID IN TRANSFERRING

When my husband transferred bees into hives I took a fly spray gun filled with sugar and sirup and sprayed on package cages or bees. It helped considerably.

Mrs. E. J. Pease, Kansas.

QUEEN INTRODUCTION

I have tried a method of introducing queens, that so far has always worked, but I have not used it enough to be sure. Here it is:

Cage the old queen. Place her cage and the cage of the young queen over the brood nest with the cages end to end to prevent the bees from turning them loose. After four to six days, remove the old queen and release the young one. She is readily accepted.

Fred W. Wichman, Tennessee.

For the Ladies

Once again the world is renewing its dream of a white Christmas, of peace on earth and good will among men. When the family, friends, and neighbors drop in around holiday time to exchange season's greetings, let a heaping plate of these Chocolate Fruit Cookies and glasses of your favorite punch or honey eggnog help radiate good cheer for you. If there will be children in the group, you had better plan to make an extra supply, for the cookies are a prime favorite among the youngsters.

Chocolate Fruit Cookies

½ cup honey
½ cup sugar
½ cup melted butter
2 eggs
3 squares chocolate, melted
1 teaspoon soda
½ cup milk
2 cups flour
1 cup raisins and nuts, (dates may be used)
1 teaspoon vanilla

Add honey and sugar to melted butter. Add the yolks of eggs and beat well. Add melted chocolate. Add soda to milk and then add milk and half the flour alternately. Mix well. Add raisins and nuts with remainder of flour. Add beaten whites of eggs and flavoring. Drop from teaspoon on buttered baking sheet. Bake 10 to 15 min. in moderate oven (350°F.).

Honey Eggnog

4 to 6 egg yolks
4 tablespoons honey
4 cups milk
Nutmeg

Beat the yolk of eggs until lemon colored. Add honey and mix well. Add milk slowly. Fill glasses. Add a slight grating of nutmeg. Serve at once.

To make an orange eggnog, replace milk with orange juice. Omit nutmeg.

* * * *

Candles are an integral part of Christmas and holiday festivities. If you have a lot of partly burned, red, white or green candles which are of little use as they are, use them to make new ones. Melt the stumps carefully and mold in a soup can. Use a piece of twisted string for the wick. When the wax has set, unmold carefully. For a decorative, finishing touch, drip wax of the same or a contrasting color over the sides. Set the candle in a small, flat dish and wreath with bits of pine or cedar branches.

* * * *

Candles which have become grimy and dust-laden may very easily be renovated and used again. Just saturate a soft cloth with alcohol and carefully wipe the candles. This treatment will brighten their color and make them as good as new to lend their charm to your table again.

* * * *

Here is a suggestion to solve the gift problem for someone on your list who does a great deal of sewing. It is an electric scissors. They resemble a man's electric shaver and will cut all weights of fabric with little effort on the part of the operator. You might drop a hint to the family if you are contemplating making slip covers or clothes this winter.

Canadian Honey Production to Decrease

According to the Canadian Bee Journal, there is a possibility of a cut in honey production in the Canadian provinces this year, due to two factors. One is the shortage of sugar, only 5 pounds per colony or package, being allowed for the 1946 season.

The other item is that the Canadian government has removed the subsidy of 50 cents a pound on package bees which has been in effect during the war.

Apparently the price increase to customer on package bees is not so vital as the possibility that they would not have enough sugar to feed their packages when received.

A New Book On Beekeeping In Sweden

By Adolph S. Carm

"Boken om Bina," the "Book About the Bees," edited by Alexander Lundgren and Gosta Notini, is a new book printed in large format on glossy paper. It is comprehensive, well written, and profusely color-illustrated book by a group of authorities, each writing on the subject with which he is most familiar. The book contains 546 pages and is published by Bonnier Company, Stockholm, Sweden. It is priced at about $14.00.

Sweden is a country about the size of California, but is situated so far north that its southern tip placed at Fort Nelson, on the southern shores of Hudson Bay, would reach far beyond the Arctic circle. One would assume that beekeeping in such a climate would present conditions different from those in the U. S. A., but by and large the climate is comparable to that of Maine. There are beekeepers in Lapland who report satisfactory crops amounting to 100 pounds per colony. One is situated not far from the Arctic circle.

In 1942, the Swedish Beekeepers' Federation had 18,779 members in 630 local associations. The Federation owns and publishes the organ of Swedish beekeeping, "Bitidningen," and each year has spent several thousand dollars advertising honey. It has a patented honey label design which members are permitted to use, providing a fee is paid and their honey conforms to the standards set for a good grade of honey. Their regulations further provide that apiaries be located 4 miles apart. The Federation also sets the price of honey from year to year. One year the price was 3.40 crowns, another 5 crowns (45 and 60 cents per pound, respectively).

In the heather regions along the west coast facing the North Sea, the native dark bee of Northern Europe still exists, but in other parts of the country bees and queens from Bohemia, Austria, and Italy are used. Escaped swarms in trees, chimneys, and walls insure a mixed strain just as in most countries. There is a great variety of flowers, too many for a book review to enumerate, but the honey gathered is mostly from clover and on the west coast from heather.

Centrifugal extractors, movable frames, and wax foundations are now used in Sweden, as in every other country adopting modern methods, but the size of the hives and frames

will give an insight regarding Swedish beekeeping that nothing else can. The two most standard frames are 11¾ by 11¾ inches and 8 by 12 inches, comparable to the American and Gallup frames discarded by U. S. beekeepers a long time ago. The authors are not agreed that these prevailing types and sizes of frames and hives are the last word. Compared to the Langstroth frame, 9½ by 17⅝ inches, and the Dadant frame, 11¼ by 18½ inches, they are one third smaller than those standard in the U. S. No wonder that the Swedes are impressed with the large crops of honey that are produced in this country.

The average Swedish beekeeper has seven hives and most of them keep bees as a hobby or sideline. American and European foulbrood, Nosema, and several other bee diseases are present in Sweden. Since 1934, the law prescribes for inspection and treatment of diseases.

Wintering bees in a cold climate with long winters in small one-story hives gives rise to an average winter loss of 17 per cent. To overcome the long wintering problem, many experiments have been made and bee yards have been fitted with electricity and wiring to heat the hives standing in the open. Several of these installations are pictured in the book, but this still is in the experimental stage. Heavily insulated hives and winter packing with straw, wood shavings, and other means are the common practices for wintering.

The book gives a good description of the medicinal properties of honey, especially its curative value in respiratory infections. It is surmised that there must be vitamins in honey, but the latest experiments definitely establishing the vitamin content of honey were not known in Sweden when this book was prepared. Also the experiments of Farrar and Haydak with feeding pollen supplements were unknown to the authors. The heredity of the bees and bee behavior is treated in a heavily illustrated chapter and the Mendelian law of heredity is followed.

The chapters dealing with the history of beekeeping are very thorough. Queen breeding is shown to have been known for over a thousand years, while commercial beekeeping existed in Egypt over five thousand years ago. The Maya Indians in Central America knew how to set aside the brood combs and young bees when harvesting honey so as to make a nucleus for a new swarm. The chapters dealing with the ancient beekeeping from Egyptian, Greek, and Roman times are no doubt interesting but there is not much there to promote practical progress in today's problems. But, on the whole, this excellent book is evidence that Swedish beekeeping is up on its toes and making progress.

Institute News Notes

American Honey Institute, Commercial State Bank Bldg., Madison 3, Wis.

Merry Christmas and may 1947 hold Health, Happiness, and Honey for you.

* * * *

Two Sweet Gifts from Nature—Citrus Fruits and Honey is the name of a new eight-page folder of recipes and hints on how to use these two choice foods. A sample leaflet will be mailed on request. The first advance order is for 10,000 of these leaflets, the second advance order is for 1,000.

* * * *

The 1947 honey calendars are in big demand. Orders ranging from 100 to 2,500 calendars have been received. You may still get these at $1.00 per 100.

* * * *

Will your name be listed in the annual directory? It will if your membership dues reach the American Honey Institute office by January first.

* * * *

We told you so!

The customers to whom you gave a copy of Old Favorite Honey Recipes will be your steady customers.

Honey In British Columbia

The production of honey in British Columbia in 1946 totaled 1,244,220 pounds at $411,500, according to W. H. Turnbull, assistant provincial apiarist. Apiaries totaling 4,569 were involved in this total. The 1945 production was 1,017,000 pounds.

The interior of the province has about 50 per cent of the bees, and produced 83 per cent of the total crop, with an average of 115 pounds per colony. This compares with 20 pounds per colony on Vancouver Island and the Gulf Islands, and 40 pounds for the Fraser Valley.

F. H. Fullerton,
British Columbia.

The Amsterdam Bee Garden

From J. H. Van Duk comes a map of the bee garden in Amsterdam. The list of trees, shrubs and plants included in the garden indicates that some one has given serious study to the problems of bee pasture in that country. Thirty-five different kinds of willow are mentioned, six species of basswood and seven species of maple. There is a large variety of honey and pollen yielding plants and it must be a rare occasion when something is not available for the bees from early spring until killing frost in autumn.

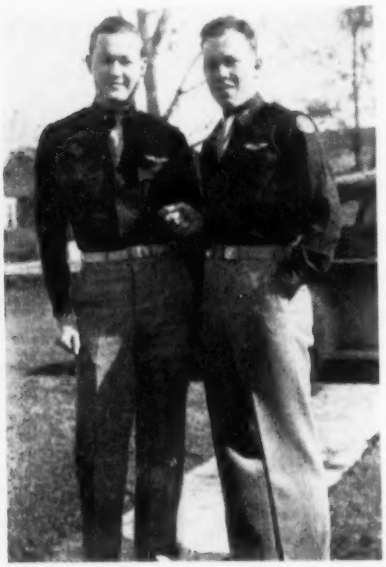
Bee gardens are popular in the old world and the time is likely to come when similar interest will come in this country. A number of our readers have indicated their intention to have a collection of honey plants but it remains for some public institution to establish a bee garden on the scale of the one in Amsterdam.

Idaho Figures

Idaho beemen are elated over the 1946 honey crop. The harvest for the Gem state producers is placed at 7,473,000 pounds, second only to California in the west. The amount, however, is approximately 125,000 pounds less than last year. Bees are going into the winter in fine shape, the beemen report, with honey in the hives for winter feed.

Glenn Perrins,
Utah.

J. D. Bradshaw (general merchandise), North Carolina, shades his fence line apiary under the trees with what-have-you. Those are steep alighting boards for a heavy load. The wall makes a good hive rest.



A "fair" exchange is no robbery as Roy Sohm, (Bee Lore apiary), Burley, Idaho, proved when the two Lieutenants, Stone and Gayland, went to fight for our liberties. Then Elaine and Rozell Sohm took their place. Which crew do you want, men?

Charles L. McDaniel, Kenyon, Minnesota, owns this all-modern storage and extracting house. The one on the right is a 20x40 storage and on the left is a 20x30 extracting house with boiler and tanks in basement.

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FEATURE ARTICLES—NEWS ITEMS
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Andre Dupuis, Proprietor

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Bees and Queens for 1947

2,000 pkgs. for April and May—10,000 extra queens. Book now and be sure of your spring dates. 1947 PRICES—Queens $1.15. 3-lb. pkgs. $4.85. 2-lb. pkgs. $3.85. Any number.

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The Leading Bee Journal of the Southern Hemisphere is the
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Subscription 5 shillings per year, start any time. Enquire for International money order for 5 shillings (Australian) at your Post Office, Write now to The Editor, P. O. Box 20, West Maitland, New South Wales, Australia.

TWA Airlines carry two kinds of queens these days. Here they are. The "honey" is hostess June Lyness, listening to the buzz-buzz of her rivals. A Skymaster carried them to Cairo, Egypt, and then to Palestine.

R. L. Griggs, Hancock, Iowa, is getting this baby ready for his future. Says he of that colony: "Scale colony, net gain 519 pounds, 1945, from June 9 to July 26." Gosh!

T. J. Wells (Wells Brothers Enterprises, pure bred, hornless Jersey cattle, contract farming, pecan grafting, seeds, honey), Oklahoma, shows one of their new apiaries from three pound packages, supers to enclose feeders. Says he, "Seeds and bees with us go together."

GREETINGS

At this timely season we wish to voice our appreciation for your valued patronage that has contributed so much to our progress during the past year. We wish you a full measure of the season's greetings, A Happy and Prosperous New Year.

Booking orders for MACK'S QUEENS, season 1947—May 15 and after.

Herman McConnell & Sons
ROBINSON, ROUTE 2, ILLINOIS

Italian Bees and Queens

2-lb. with queen $4.00
3-lb. with queen 5.00
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Certificate of inspection, and safe delivery guaranteed.

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Queens QUALITY Packages

Three-Banded Italians

NOW BOOKING FOR 1947

	Queens	2-Lb.	3-Lb.	4-Lb.
1-24	$1.40	$4.50	$5.85	$7.20
25-99	1.30	4.25	5.55	6.85
100-up	1.20	4.00	5.25	6.50

ALLEN APIARIES
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SEMMES, ALABAMA

BEE-WISE—READ
The Beekeepers' Magazine

If you haven't seen my independent publication, just drop me a postal card and I'll mail you a free sampe copy.

ELMER CARROLL, Publisher
RT. 5, BOX 181 LANSING, MICH.

HOLLOPETER'S

Hardy, hustling honey gathering Italian queens, Northern bred from selected stock. Shipping season May 20-November 20.

White Pine Bee Farms
ROCKTON, PENNSYLVANIA

Meetings and Events

T. C. Burleson Sells Business

Thomas C. Burleson, Colusa, California has sold his business as a breeder and queen shipper of "Blue Ribbon" Italian bees and queens to Howard Foster, of Bridger, Montana.

After 25 years in the Sacramento Valley, Burleson returns to his home town of Pomona, California.

Foster, 32 years old, has been an extensive beekeeper and will carry on the business. Burleson will probably continue in honey production in his new location, buying and packing honey for wholesale grocery trade.

Milton D. Farrar To Crop Protection Institute

Dr. Milton D. Farrar, research entomologist of the Illinois Natural History Survey, has accepted a position as associate director of the Crop Protection Institute, Durham, New Hampshire. Dr. Farrar came to Urbana in 1928.

He will continue his research in insecticides, fungicides, fumigants, and plant tests. Dr. Farrar is a brother of Dr. C. L. Farrar, of the Bee Culture Laboratory at Madison, Wisconsin.

Minnesota Correspondence Course

The General Extension Division of the University of Minnesota is offering a correspondence course in beekeeping consisting of 16 lessons which can be studied at one's own convenience. The student is under the personal guidance of an instructor who corrects the lessons and answers questions pertaining to beekeeping.

The aim of this course is to present information on the subject of beekeeping in such a way that those who have had no experience with bees can start with one or more colonies in the spring and carry on with them successfully; also, to present enough fundamental information on bees and modern beekeeping practices to enable those who have had a few years of experience to add to their knowledge and improve their methods.

The fee for the course is $10.00. For detailed information write to the Correspondence Study Department, General Extension Division, University of Minnesota, Minneapolis 14, Minnesota.

Mykola Haydak.

Delaware Meeting

The Delaware State Beekeepers' Association held the second meeting of the 1946 season at John W. Dukes' apiary near Taylors Bridge, Delaware, on the afternoon of October 12, with an attendance of 31. Mr. Paul L. Holcombe, Inspector of Bee Culture with the New Jersey State Department of Agriculture, was discussion leader. He spoke on several topics, including beekeeping regulations, inspection service and disease control work in New Jersey, and gave advice on the wintering of bees.

National Auxiliary Tampa, January 15-16

The National Beekeepers' Auxiliary will hold its annual meeting at Tampa, Florida, Wednesday and Thursday, January 15 and 16. There will be speakers each forenoon from 9:30 to 12:00. Luncheon at some interesting place at noon and a tour of Tampa gardens and beauty spots in the afternoon. On Thursday evening the Auxiliary will attend the Federation banquet.

R. Carroll, Publicity Chr.

Bronx County Association, Dec. 8

The Bronx County Beekeepers' Association (New York) will hold its Christmas meeting, December 8 at 2:30 P. M. as the guests of Mr. H. Wilde, 30 West 190th Street. Santa Claus will be at the door to welcome everyone and to present each a Christmas token. Mr. Wilde has a ballroom large enough to hold over two hundred people. Make this a "Merry Christmas." There will be an extra present for every child that attends this meeting.

Sam Roberts, Secretary.

Full-Time Inspectors In British Columbia

Appointment of full-time inspectors for better control of bee disease was reached in a resolution at the annual meeting of the Kootenay division

of the British Columbia Honey Producers Association. W. A. Kemp of Creston, secretary of the recently formed East Kootenay division, presented the resolution. He says there is a great need for properly paid inspectors.

Mr. N. H. La Rose in his presidential report said 260 packages of bees were handled during the season and 132 members were on the roll of the Association, 20 of whom have been tranferred to the new East Kootenay division.

A. S. Homersham was elected president of the Association, succeeding G. A. Butling who was transferred to Victoria during the year, his term being completed by Mr. La Rose.

Tax Refund on Sugar Fed to Bees

In a recent letter from Oscar H. Schmidt, of Bay City, Michigan, is information that should be in the hands of every beekeeper who has occasion to feed any large amount of sugar in his operations. The 53½ cents processing tax which may be recovered on each bag is a significant item of cost.

The United States Treasury Department has ruled that bees are live stock and refund of the tax is made under the provisions of Section 3494 (a) Internal Revenue Code, Sugar Act of 1937, for sugar fed to livestock.

Claim should be filed on form 843 which can be obtained at any office of the Internal Revenue Service.

Reference should be made to Section 3494 of the Internal Revenue Act of 1937 and the claim should be accompanied by invoices. If purchase is made direct from a factory, enclose a statement from them showing the date of purchase and the date the processing tax was paid to the Internal Revenue Office. If the purchase was from a wholesaler, enclose a statement from him showing the brand of sugar, the factory purchased from, and the date of that purchase.

Complete the form carefully, comply with all the instructions, and file the claim with the Internal Revenue Office for your area.

(Federation News Letter).

Dubuque (Iowa) Officers

At the Henry Gansmer home the following were elected as officers of the Dubuque County Beekeepers Association: President, G. Harold Ohmert, Dubuque; First vice-president, Joe Nordhues, Worthington, Iowa; Second vice-president, Howard

A Surprise Gift for Christmas—

A Brilliant New Book

The Hive and the Honeybee

No beekeeping friend could ask for more than a Gift Certificate from you for this brilliant new classic in beekeeping to be mailed after the first of the year. Be the first to give your friends something they will long remember.

The Hive and the Honeybee is a book of one hundred years of beekeeping lore brought completely up-to-date by the world's best authority on each subject. All the way through it is a step-by-step array of how-to-do-it facts that are brand new, facts that are rapidly changing beekeeping management—new short cuts in honey handling—new things to use through the season—new ideas in swarm control—new ways to winter bees—new facts about bee life. It helps to make a real living from bees and is a complete education in how bees live and work and how they look inside and outside.

AUTHORS AND SUBJECTS—

How the honeybee colony lives and works—Dr. O. W. Park.
Honey plants and pollination—Frank C. Pellett.
Equipment, apiary sites, queen rearing and package bee production—Maurice G. Dadant.
Facts about comb building and comb foundation—Henry C. Dadant.
Honey extracting, beeswax and its uses, marketing honey—Roy A. Grout
Seasonal apiary management and first steps in beekeeping—Gladstone H. Cale.
Comb honey production—Carl E. Killion.
Bulk comb honey production—Newman I. Lyle.
New facts about the anatomy of the bee—Robert E. Snodgrass.
New practices in wintering bees—Dr. C. L. Farrar.
Food value and properties of honey—Dr. V. G. Milum.
Poisoning by insecticides and plants—Dr. J. E. Eckert.
Diseases and enemies of bees and the treatment of bee diseases Dr. Arnold P. Sturtevant.

Each book is durably and attractively bound and contains over 650, big 6x9, pages with hundreds of pictures

ADVANCE, PRE-PUBLICATION PRICE $4.00 (WITH AMERICAN BEE JOURNAL FOR ONE YEAR $5.00). A handsome Gift Certificate will be sent with each Christmas order with your name. Book will be mailed after the first of the year.

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ITALIANS **QUEENS** **CAUCASIANS**

Daughters of Queens bred for Resistance

Bred to Italians Drones

All three races bred in separate yards

2-lb. pkg. with queen $5.00
3-lb. pkg. with queen 6.25

Extra queens $1.50 each. Over 25 years a shipper in U. S. A. and Canada.

Sulfathiazole used in feed at no extra cost to you. MASTER MIX POLLEN made from soybean flour, cottonseed meal, brewers yeast, skim milk, natural pollen, invert sugar and Sulfathiazole, 10 lb. pail $2.50; six pails $13.50. Send for FREE Circulars.

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Highest prices paid in CASH. Sell us your Honey for use under the AIRLINE label, famous for years. Write at once giving quantity, price, etc. If you care to wire or telephone, do so at our expense.

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We are fully prepared in the way of bees and equipment to fill your orders. The demand for packages and queens is increasing and we expect an early sell out. We guarantee live delivery—full weight—young queens—health certificate. 10% books your order—balance 10 days before shipping.

PRICES ON ORDERS BOOKED BEFORE JANUARY 1, 1947

2-lb. with young laying queen $4.00
3-lb. with young laying queen 5.00
Queens 1.25

Rt. 2, Box 9 SUNKIST BEE COMPANY, Houma, La.

SOYBEAN FLOUR—Expeller Process

100 pound bag, f. o. b. mill, Decatur $7.15
500 pounds or more, f. o. b. mill, Decatur—per hundred 6.65
2000 pounds or more f. o. b. mill, Decatur—per hundred 6.35
Carload, f. o. b. mill, Decatur—per hundred 6.00

Cash with order—Instructions for mixing with all orders

Shellabarger Soybean Mills : Decatur 30, Ill.

Middle Tennessee Apiaries : Leather Colored Italian Queens

From imported breeding stock. 1-25, $1.25 each. 26 or more $1.10 each. One-fourth books orders—balance before shipping. All queens clipped and by air mail at no extra cost. ALL QUEENS AFTER JUNE 15TH $1.00 EACH.

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OUR 1947 SPRING PRICES

IN VIEW OF INCREASED OPERATING COSTS, WE HAVE REVISED OUR PRICE SCHEDULE AS FOLLOWS:

Quantity	Queens	2-Lb. Pkgs.	3-Lb. Pkgs.
1-24	$1.40	$4.50	$5.85
25-99	1.30	4.25	5.55
100-up	1.20	4.00	5.25

BESSONET BEE COMPANY : Donaldsonville, La.

Better Bred Queens—3-Banded Italians

We thank our many customers for their patronage this season. We are now booking orders for 1947.

CALVERT APIARIES **Calvert, Alabama**

Allen, R. R. No. 4, Dubuque; Secretary-treasurer, G. J. Dietrich, Dubuque.

G. J. Dieterich, Secretary.

Tampa Meeting January 13-17

The News Letter carried last month a reasonably complete outline of the program to be presented at our annual meeting in Tampa on January 13 to 17, 1946. The previous month gave a list of the hotels in Tampa and their rates. There have been no significant changes in the program to date and it will be printed again in the December News Letter.

We hardly believe it necessary to call your attention to the desirability of your attending this meeting. In addition to the good you can do yourself and your organization, you will be visiting an interesting and delightful part of our country and will have an opportunity to do some deep sea fishing, visit various spots of interest, and soak up a good supply of good old southern sunshine.

Make your reservations early and be on hand for all the meetings. You will enjoy every minute.

(Federation News Letter).

Louisiana Association

The first annual meeting since 1942 was held in the State Capitol at Baton Rouge, with W. E. Anderson presiding. George Rea, field representative of the National Federation, was a guest speaker. According to the new members which he signed up we feel he sold the idea of cooperation to everybody. Rea especially outlined the importance of bees in agricultural economy and the fine work being done for the industry by the Federation.

Never before in the history of our association have we been able to interest so many young men in attending the meetings. They must be encouraged to stay in the business.

The new officers are as follows: Thos. L. Bernard, Atchafalaya, president; George L. Lott, Baton Rouge, vice-president; and E. C. Bessonet, secretary-treasurer.

E. C. Bessonet, Secy-Treas.

New Bee Specialist for Pennsylvania

W. W. Clark, is now filling the position of Extension Bee Specialist for Pennsylvania. He is a former 4H Bee Club Member, an Ex GI, who saw service in Europe. He is a graduate of Pennsylvania State College. He took over his new responsibilities the middle of September.

Edwin J. Anderson,
Assistant Prof. of Apiculture.

EXTRA!

Blue Ribbon Bees and Queens Change Ownership

Thos. C. Burleson Sells Package Bee Business to Howard Foster

To my many friends and customers—

I appreciate your past patronage, friendship, and association through the many years we have been breeding and shipping our "Blue Ribbon" stock of bees. I assure you my successor will endeavor to give you the same service and stock as has been our policy the past twenty-five years.

THOS. C. BURLESON.

To the Beekeeping World—

Our fifteen years' experience producing honey in Montana, Idaho, and Oregon, gives us an understanding of the Northern Producers' needs. We pledge our policy, "Better Bees and Queens for Better Honey Production." Yours for service,

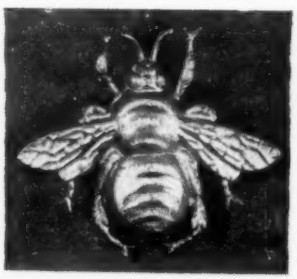
FOSTER APIARIES

Box 55, Bridger, Montana **Box 239, Colusa, Calif.**

STARTING WITH THE AUGUST ISSUE

we gave a new name for our magazine, which was formerly called THE BEEKEEPERS ITEM. We like the new name and believe that you will. The name is distinctive and it implies mechanism, the sulfa drug and everything that is new and worthwhile that we are bringing to your attention.

We are making our magazine into the picture magazine of the industry. We are taking our readers with us on trips to bee meetings and showing them in pictures what we saw. Every month we have worthwhile articles on various phases of beekeeping, articles that you, as a beekeeper, cannot afford to miss.



Pictured at the left is a bee pin that we are offering in connection with our magazine. This is a photograph of the pin and is approximately the same size. These are sturdy gold-plated pins, fitted with a special spring tension arrangement, but no safety catch.

MODERN BEEKEEPING

One year with the bee pin, $1.25

Modern Beekeeping WALTER T. KELLEY, Editor **Paducah, Ky.**

Classified Advertisements

BEES AND QUEENS

THREE BANDED ITALIAN QUEENS for spring delivery, finest of quality. Booking orders now. Satisfaction guaranteed. Alamance Bee Company, Geo. E. Curtis, Mgr., Graham, North Carolina.

JOE'S ITALIAN BEES AND QUEENS for spring delivery. 2-lbs. with queen $4.00; 3-lbs. with queen $4.90. Queenless packages, deduct $1.00. Full weight, live delivery and health certificate guaranteed. Folks rush your orders for preferred shipping dates. Joe Roy Apiaries, Hessmer, Louisiana.

THANKS for 1946's business. Booking 1947 queens at 1946 prices. Lange Apiaries. Llano, Texas.

THREE-BANDED Italian Queens and Bees for 1947. Packages 1-24 at $4.50; 25-100 at $4.25. Extra bees at $1.35 and $1.30 per lb. Extra queens 1-24 at $1.40; 25-99 at $1.30; 100 up $1.20. Cottage Hill Apiaries, Rt. No. 2, Mobile, Alabama.

MERRY CHRISTMAS and a HAPPY NEW YEAR to all our friends, from the Brewer Brothers Apiaries, Tampa, Florida.

BREWER'S LINE-BRED CAUCASIAN QUEENS—Book your order for April delivery now. Write for prices and terms. No package bees. Brewer Brothers Apiaries, 3217-J Hawthorne Road, Tampa 6, Florida.

BOOKING ORDERS for 1947—Caucasian and Carniolan package bees. Subject to prices November 1st. Tillery Brothers, Greenville, Alabama.

MINNESOTA and Northern Iowa beekeepers contact us now for 100% full colonies on 9 combs in spring of 1947. Reppert's Honey Farms, Rt. 5, Shreveport, Louisiana.

PACKAGE BEES, QUEENS, Italians. Circular free. Crenshaw County Apiaries, Rutledge, Alabama.

HONEY AND BEESWAX WANTED

22c per lb. in 60's, containers furnished. Large or small lots wanted. Gerst Bee and Honey Co., West Burlington, Iowa.

WANTED—Will pay top price for pure aster honey. Robt. W. Lane, Greeneville, Tenn.

BEESWAX WANTED. Highest cash price. Ship to Berman Bros. Fur and Wool Co., Minneapolis, Minnesota. Est. 1899.

WANTED—Your honey, any amount. Will give top prevailing prices. Herald Partello, Rt. 2, Boone, Iowa.

WANTED—Clover extracted and comb honey. Any quantity. C. Jankowski, Prairie View, Illinois.

HONEY AND BEESWAX. HIGHEST PRICES PAID. MAIL SAMPLES, ADVISE QUANTITY. BRYANT AND SAWYER, LOS ANGELES, CALIFORNIA.

HIGHEST CASH PRICES paid for all grades extracted honey. Prairie View Honey Co., 12303—12th St., Detroit 6, Mich.

WANTED—Light, extracted honey, clover preferred, in 60's. J. Jones, 115 West 82 St., New York 24, N. Y.

HONEY WANTED—Top prices paid. Write immediately. J. Wolosevich, 6315 So. Damen Ave., Chicago, Illinois.

WANTED—Extracted clover honey in 60's. B. I. Evans, Windom, Minnesota.

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

Rates of advertising in this classified department are ten cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other reference with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease or state exact condition, or furnish certificate of inspection from authorized inspectors. Conditions should be stated to insure that buyer is fully informed.

CLOVER HONEY WANTED in 60's. Large or small lots. Send sample and state quantity. Ellsworth A. Meineke, Arlington Heights, Illinois.

HONEY WANTED—All grades, carloads or less. Also beeswax. Pay top prices. H. & S. Honey & Wax Company, Inc., 265-267 Greenwich St., New York 7, N. Y.

WE PAY CEILING PRICES for wax, and remit the day the wax is received. Your wax made into medium brood foundation at 14c per lb. The Hawley Honey Co., Iola, Kansas.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.

WANTED—Extracted honey, white or light amber, in 60's. Ed. Heldt, 1004 W. Washington St., Bloomington, Illinois.

HONEY WANTED—Small or large lots. Send sample and amount. Rocke Apiaries, Eureka, Illinois.

CASH FOR YOUR WAX the day received. Write for quotations and shipping tags. Walter T. Kelley Co., Paducah, Kentucky.

SUPPLIES

BUY YOUR SPRING POLLEN SUBSTITUTE REQUIREMENTS NOW. We have hard to get Dried Brewers' Yeast at 35c per lb., 100-lb. bags, $29.50. Soybean Flour, 15c per lb., 100-lb. bags, $8.95. F. O. B. Minneapolis. Free instructions for using included with your order. HONEY SALES COMPANY, 1806-08 No. Washington Ave., Minneapolis 11, Minnesota.

YOUR WAX WORKED into high quality medium brood foundation 17 cents per pound; 100 pounds $14.00. Fred Peterson, Alden, Iowa.

INSTANT seven, eight and nine Frame Spacers. Fast, accurate. $1.50 postpaid. Simplex trap clips queens without handling. $1.75 postpaid. Free circulars. George Leys, 48 Drake Avenue, New Rochelle 2, New York.

HONEY MELTER—Two "WEEKS TUBES" with full directions—$2.00, postpaid. Cans of sugared honey become fine, light, well-flavored product. Never over-heated. BEE-KEEPER'S HOIST, $25.00, or build your own. Specifications free for stamp. Turner Mfg. Co., Corning, Iowa.

ATTENTION BEEKEEPERS IN MINNESOTA, Wisconsin, Iowa, N. D. and S. D. Buy Lewis-Dadant Bee Supplies and Honey Containers in Minneapolis and save. Send for price lists. TOP PRICES PAID FOR HONEY AND BEESWAX IN CASH OR TRADE. HONEY SALES COMPANY, 1806-08 No. Washington Ave., Minneapolis 11, Minnesota.

WRITE FOR CATALOGUE. Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries. Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

PORTER BEE ESCAPES are fast, reliable, labor savers. R. & E. C. Porter, Lewistown, Illinois.

LARGE CASH SAVINGS can be made by letting us work your wax into either wired or plain foundation. Large independent factory manufacturing a complete line of bee supplies including extractors, etc. Selling direct saves you the agent's profit. Quick shipment from large stock. Large free catalogue explains everything. Walter T. Kelley Co., Paducah, Kentucky.

FOR SALE

FOR SALE—Complete 8-fr. bee outfit, including about 400 colonies bees, enough extra equipment for 300 colonies, all extracting equipment, new frames, foundation, etc. Write for particulars. Dave Goedde, Worland, Wyoming.

FOR SALE—35 colonies bees, wired supers full of honey on some colonies, comb honey supers, 2 frame Root extractor, etc. Reason for selling is because lack of time for care. Herbert K. Harris, Rt. 1, Mendota, Illinois.

24-Frame Radial Extractor Superior, electric knife, steam knife, 60 gal. tank. Ames Hatchery, Deerfield, Wisconsin.

We are getting along in years. Will sell all or one-half interest in our bee and honey business. 200 colonies. Equipment and bees, clean and first class. C. W. Grader, Forks, Washington.

FOR SALE—30 frame Woodman extractor in A-1 shape. Harry H. Harwood, Chinook, Montana.

HONEY LABELS—Improved designs, embodying color, balance, simplicity and distinction. Please send for free samples and prices. C. W. Aeppler Company, Oconomowoc, Wisconsin.

WANTED

WANTED TO LEASE ON SHARES about 300 colonies by two veterans trained under Dr. C. L. Farrar. Write Robert Kleba, 1113 W. Johnson Street, Madison, Wisconsin.

WANTED—Mill for making bee comb foundation. Maria Hauser, 303 E. 56th St., New York 22, New York.

WANTED—Bees and equipment. Ernest Fahlbeck, 406 South Springfield, Rockford, Illinois.

WANTED—Old out of print bee books. We have calls from libraries, etc. Let us know what you have and we will quote price. American Bee Journal, Hamilton, Illinois.

SEEDS AND TREES

NEW CLOVER,Trifolium Ambiguum, that spreads by deep rhizomous roots. (See page 459, Nov.). Root divisions 25 for $2.00; 100, $5.00; 250, $10.00; 500, $18.00; postpaid. Send for new circular describing 40 desirable honey plants. Melvin Pellett, Atlantic, Iowa.

FOR SALE—BASSWOOD TREES, foot to ten foot tall. Write for circular on nectar and pollen producing shrubs, trees and perennials. Plant for permanent nectar and pollen during the lull of early spring and fall, when your bees need it the most. Nicollet County Nursery, St. Peter, Minn.

ANISE-HYSSOF SEED. Packet 25c; ½ ounce $1.10. James Beecken, Elgin, Illinois, Rt. 1, Bx. 275.

POSITIONS WANTED

EXPERIENCED BEEKEEPER and helper for honey production in Northern California. Good proposition to right men. Start work immediately. Lloyd Fox, P. O. Box 492, Fair Oaks, California.

WANTED—A good experienced man year around work. A good deal if you know the business. C. M. Hurst, Blackfoot, Idaho.

WANTED—Experienced queen and package beemen for our apiaries. Only honest, reliable men considered, no boozers. Give full information age, experience and salary expected in first letter. Good opportunity for right parties. YORK BEE COMPANY, JESUP, GEORGIA.

GOOD OPPORTUNITY for first-class beeman in a modern California apiary. Able to assist in managing 1500 colony outfit in honey and package bee production. House furnished. State qualifications and wages expected. Also need two experienced or inexperienced helpers. Write Bax AC. care American Bee Journal.

WANTED—Experienced and unexperienced help for winter work in Texas and summers in Minnesota. J. D. Beals, 722 E. Filmore, Harlingen, Texas.

WANTED—Foreman and helper to run 1,000 stands of bees. Permanent job and good wages with opportunity to buy an interest. Box 26, care American Bee Journal.

MISCELLANEOUS

BEE HUNTING by Lochard. 72 pages, 35c postpaid. MARTIN BOOK SERVICE, Strongstown, Pennsylvania.

EARTHWORM CULTURE—Send postcard for valuable FREE bulletin, with review on "Intensive Propagation and Use of Earthworms in soil-building." Thos. J. Barrett, Earthmaster Farms, Box 488-H, Roscoe, California.

RANCH MAGAZINE—Do you find it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any magazine published. Subscription $1.50. Hotel Cactus, San Angelo, Texas.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents, stamps. Membership of the Club, including subscription to the paper 10/6. The Appis Club, The Way's End, Foxton, England.

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Carloads and less than carloads. Mail sample and best prices in all grades.

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Timely topics on western Canadian beekeeping and all the news about Canada and Canadian markets. You cannot afford to be without the most up-to-date information in these days of great changes. Sample copy free. Address WESTERN CANADA BEEKEEPER, 501 Bank of Commerce Bldg., Winnipeg, Manitoba, Canada.

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Quality Bred Italians For 1947

Orders are being placed rapidly for coming season, which indicates the demand will surpass past seasons. Determine your needs and place your order now without further delay. We will be fully prepared to supply highest quality bees which are so much in demand by leading honey producers who know. Quality does not cost, it pays. 1947 prices in U. S. funds.

PACKAGE BEES WITH QUEENS

Quantity	1 to 2	3 to 27	30 to 99	102 up
2-lb. packages	$4.50 each	$4.35 each	$4.20 each	$4.00 each
3-lb. packages	5.50 each	5.35 each	5.20 each	5.00 each
Extra queens	1.50 each	1.45 each	1.40 each	1.35 each

Queenless packages, deduct $1.15 per package

Our prices only show a very slight increase over past season. Bees are supplied in neat new cages. Certified bees from our own Apiaries, state registered and state inspected. Extra queens by mail and package bees by express only. We recommend 3-lb. size packages as best all-around size. If convenient, small orders cash, larger orders $1.00 deposit per package to insure order, and the balance not less than two weeks prior to shipping date. Thanking all of you for past favors and wishing more honey to you for a greater 1947.

York Bee Company, Jesup, Ga., U. S. A.

(The Universal Apiaries)

Crop and Market Report

Compiled by M. G. Dadant

No questions were sent out to reporters for the crop and market page for December. The honey-price situation naturally has radically changed because of the release of all ceilings on honey. As a result, honey is selling at varying prices, some beekeepers being satisfied to follow along fairly well with the boost in prices but still protecting their customers and not "going the limit."

Most honey is selling in bulk around 25 cents a pound although we learn of prices as high as 27, 28, 30 and 33 cents in bulk quantities of a ton or more when it is available.

In the main, likely the retail price remains about $1.75 for 5-pound pails and $3.00 to $3.25 for 10 pounds. Naturally there is not enough honey to go around. We have heard recently of a few sales, however, of "black market" sugar at prices which were less than the 25 cent price on honey. Rumors are prevalent also that sugar is plentiful but being held in warehouses to maintain proper distribution and that much of it is "leaking out" through other channels into the so-called illegitimate market.

Late rains have done a great deal to put honey plants in best condition for the winter so that there has been much improvement over a month ago. The fine weather during October also has made for a maximum of nectar secretion from those plants still available so that many areas got the tail end of the heartsease and Spanish needle flow and a considerable flow from aster. In all cases bees undoubtedly had an opportunity of ripening this honey well so that no difficulties would occur.

However, in many sections where no fall honey has been harvested, bees are extremely short. We learn of one beekeeper in eastern Iowa with 75 colonies who had a permit for 10 pounds of sugar per colony but stated that he needed 25 pounds more to carry the bees through the winter as they were completely dry. of honey after the 10-pound feeding. Such instances, however, may obtain the best results by either snuffing out all bees or at least doubling up colonies and concentrating the feed on a relatively smaller number.

With a short honey supply and long honey demand, beekeepers are much encouraged but perhaps overinclined to take for granted that the honey market will always be there and neglect their advertising of honey. Now is the time when we should set aside a part of our production or profits for the maintenance of those organizations like the American Honey Institute and National Federation of Beekeepers' Societies. Such contributions and memberships can be deducted for income tax purposes and thus cut down on the actual contribution.

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HIGHEST QUALITY PACKAGE BEES
Select Three-Banded Italian Queens of Our Own Production

Quantity	1 to 11	12 to 99	100 or more
2-lb. package with queen	$4.35	$4.20	$4.00
3-lb. package with queen	5.35	5.20	5.00

All packages shipped, Express Collect.
$1.00 per package will book your order.
QUEENS, less than a dozen, $1.50 each. 12 to 99, $1.35 each.
100 or more, $1.25 each. Parcel Post, Prepaid.
Full weight packages. Young laying queens.
Life delivery and satisfaction guaranteed.

JOHN C. HOGG, Apiarist
TIFTON, GEORGIA

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Complete Packages and Queens—1947 Delivery. Write for prices and open dates. Remember, Thrifty bees are guaranteed to please.
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Soy Flour and Pollen Traps

We are distributors of Staley's Lo-Fat, High Protein expeller processed soy flour for beekeepers. We offer the finest quality in soy flour and pollen traps.
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HONEY AND BEESWAX WANTED
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American Bee Journal Want Ads Bring Results

Tim Tietsema

Tim Tietsema, well-known beekeeper and honey packer, died at the Florida Sanitarium Hospital in Orlando, September 10. He was born in Holland, Michigan, coming to Florida thirty years ago, living in Orlando, Kissimee, and Geneva, finally moving to Oviedo in 1926. A year ago he took his son-in-law, Philip M. Packard, into business with him as acting Manager and Tim's Florida Honey Packing Business will continue. A host of friends however will miss Tim's genial smile and friendly handshake.

Steven C. Parks,
Wisconsin.

MEETINGS AND EVENTS

Program for Beekeepers During Agricultural Conference Week at Purdue University Lafayette, Indiana.

January 4, 1947, Ag. Bldg., Room103

9:00-12:00 A. M.—W. Clyde Hudson, Evansville, President Indiana State Beekeepers Association, presiding.

Let's Get Acquainted with the Honeybee—B. Elwood Montgomery, Purdue.

Seasonal Operations in the Apiary —V. G. Milum, University of Illinois.

A symposium: Time and Labor Savers In the Beeyard and Honey House—Ray Miles, Liberty, Vice-President Indiana State Beekeepers Association, leader.

1:00-4:30 P. M.—Gerald Hudson, Amboy, Vice-President Indiana State Beekeeper's Association, presiding.

Handling Bees and Honey During the Honeyflow and After—V. G. Milum, University of Illinois.

How to Control Disease and Produce a Big Honey Crop in Indiana—J. E. Starkey, Indianapolis, Chief Apiary Inspector.

A Symposium: What About the Honey Market in 1947 and Later? —Walter Bielfield, Terre Haute, leader.

A Honey Plant Program for Indiana —B. Elwood Montgomery, Purdue.

Ohio Correspondence Course in Bee Culture.

The Ohio Correspondence Course in Bee Culture was revised and brought up to date during the early part of this year. The examination questions for each lesson are of a new type, namely, true and false statements. The student determines which is correct. This method of examination saves the student's time and determines accurately his knowledge of the lesson. Students who have formerly taken the course are not encouraged to re-enroll. The twelve lessons comprising the course cover many phases of modern beekeeping. The course is free to Ohio residents and further details may be obtained by writing Prof. J. E. McClintock, Supervisor of Correspondence Courses, Extension Service, Ohio State University, Columbus, O.

Illinois Meeting Notes

The annual meeting of the Illinois State Beekeepers' Association was held at St. Nicholas Hotel at Springfield, Illinois, November 8 and 9. Some of the top-liners were Dr. L. Haseman of Missouri and of sulfa fame, Carl E. Killion, Mrs. Harriett M. Grace, Glenn O. Jones of the National Federation, M. G. Dadant, Jack Deyell of the Root Company. In addition there were a pleasing number of representatives of various agricultural departments in the state; J. C. Hackleman of Agronomy, O. D. Brissenden, of the Illinois Agricultural Association, Chief Emerick of the State Food Inspection Department, Hon. Ray Dillinger, Assistant Director of Agriculture.

The Association went on record with its subscription to the American Honey Institute, double of last year, subscribed to the National Federation of Beekeepers' Societies, 25 cents per member for its 600 members and recommended to its president a strong committee on cooperation with various state organizations in building up a better honey plant situation.

Officers elected for next year were, for president, E. A. Meineke, secretary Hoyt Taylor, Pleasant Plains, Illinois, treasurer, Wesley Osborne. Vice-presidents representing various parts of the state: F. Hanneford, Winnetka; Walter Krebs, Marissa; Harley Walker, Sibley; Harley Harris, Grand Chain and G. H. Cale, Jr., Hamilton.

On Our Way to the Great Tampa Convention, January 13-17

As you trek toward the Florida border in the early days of January look for the signs that lead to St. Augustine, the oldest city in America, where the ancient fort of San Marco fascinates every visitor. A few miles farther south on coastal route 1 are the Marine Studios and world's largest aquarium. Soon you are on the famous ocean speedway near Daytona Beach. Taking the route to Orlando you are soon winding through large citrus groves, a silver lake at every turn, enroute to Lake Wales and the famous Singing Tower. Near by are the beautiful cypress gardens at Winter Haven, the city of 100 lakes, where the primeval beauty of Florida unfolds before you. You must not overlook taking your family to Silver Springs near Ocala. Here you glide over the crystal clear water in quiet glass bottom electric boats viewing an underwater fairyland where fish and submarine life feed at great depths in this mammoth spring that forms a lake of no small proportions.

Nearing Tampa on the West coast you could visit Rainbow Springs with attractions similar to Silver Springs. A few miles north of Tampa on route 41 are the fascinating Dupree Gardens where thousands of trees and plants from all over the world are found in the natural charm of subtropical Florida. In the main garden are thousands of azaleas, some half century old, snowy gardenias, blazing spring flowers with flowering shrubs lining the pathways. Right on the gulf near Tampa is picturesque Tarpon Springs, center of world's largest sponge fisheries.

At the city limits is Sulphur Springs, the mouth of an underground river spouting forth 60,000 gallons of extremely clear water per minute with a year round temperature of 70 degrees. Here your family will find delightful bathing.

Tampa offers so many attractions to visitors that it is difficult to offer selections. A large number of golf courses, the Latin Section, Davis Island, Plant Park with its huge oaks and towering palms, The University of Tampa, its main structure of Moorish design and the Breakfast Promenade covering 6½ acres housing the City Museum of 18 rooms. Then there is Gandy Bridge spanning the bay in ribbon fashion for six miles as it carries the traffic to Tampa's sister city of St. Petersburg where the sun seldom fails to shine.

But these are sight-seeing attractions you will enjoy sandwiched in your convention trip. Monday afternoon the Ladies Auxiliary of the Florida State Beekeepers Association will entertain all the visiting ladies. Remember Monday, January 13th is the opening day but only for formalities and committee meetings.

Leslie Lewis will pound the hammer for the Southern Conference at 9:00 A. M., Tuesday, January 14th and John W. Holzberlein, Jr. for the Federation at 1:30 P. M., Wednesday, January 15th. New methods of queen rearing, selecting better breeders, sweeping strides of the Institute, progress of the National Federation, news on the sulpha drugs, and so many more live subjects are on the slates;—can you afford to stay home?

A. K. Dickinson, Director, Convention Bureau, guarantees accommodations for 2,000. Committees are arranging fishing parties, tours and sight seeing trips. In the words of Mr. Dickinson "Your hosts are piling up sand dunes with the expectation that while you are here you will get so much sand in your shoes you won't be able to leave." Watch the Journals for hotels and auto court advertisements. Make your reservations early.

A. D. Hiett, Chr. Program Com.

SPECIAL ANNOUNCEMENT

This is to advise our friends and customers that the NEWTON & LOTT BEE COMPANY has effected a friendly and cordial dissolution.

We each want to thank our many friends and customers for years of faithful patronage and continue to solicit your friendship and patronage to our independent operations.

Each will operate independently hereafter under the titles of:

NEWTON BEE COMPANY
ROUTE 2, BATON ROUGE, LA.

GEORGE LOTT APIARIES
ROUTE 2, BATON ROUGE, LA.

Italian Package Bees & Queens

PRICES FOR 1947 DELIVERY

PRICES FROM APRIL 1 TO JUNE 1—EFFECTIVE DEC. 1, 1946

	Queens	2-Lb.	3-Lb.	4-Lb.	5-Lb.
1-24	$1.40	$4.50	$5.85	$7.20	$8.55
25-99	1.30	4.25	5.55	6.85	8.15
100-up	1.20	4.00	5.25	6.50	7.75

When ordering from us you are always among the fortunate at harvest time. **A notice to old customers:** You who haven't already sent in your orders please do so as soon as possible, as our books are rapidly filling up. **Thanks.**

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Hardy — High Producing — Gentle
ST. ROMAIN'S "HONEY GIRL" ITALIANS

	1 to 4	5 to 11	12 to 49	50 to 99	100 up
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ITALIAN QUEENS OR CAUCASIANS BRED TO ITALIAN DRONES.

	Queens	2-lbs.	3-lbs.	4-lbs.
1-24	$1.30	$4.40	$5.75	$7.10
25-99	1.20	4.15	5.45	6.75
100 up	1.10	4.00	5.15	6.40

Queenless packages, deduct price of queen. Some early dates are taken, but we can accept orders from April 1st to end of May. Also have several hundred queens for late March shipment.

We want to be of service to you.

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We will replace any queen that fails to live up to our guarantee, or arrives dead or in poor condition.

Orders booked subject to your approval when prices are quoted. Your deposit of 10% not required until then.

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Queens for balance of season, $1 each

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Quality Italian Package Bees and Queens

For 1947

Quantity	1-2	3-29	30-98	99 & over
2-lb. pkg. and queen	$4.50	$4.30	$4.15	$4.00
3-lb. pkg. and queen	5.50	5.30	5.15	5.00
Queens only	1.50	1.40	1.30	1.25

For queenless packages, deduct price of queen.
Packages F. O. B. Queens postpaid.
Deposit: $1.00 per package at booking, remainder due prior to shipping.

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WHILE THEY LAST. BOOKING IS HEAVY
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to get the help which is available to you in daughter queens of "DR" stock. It will be a real help in your fight to control American foulbrood.

The performance of this stock is why beekeepers are placing repeat orders for larger numbers of queens. Satisfaction is what you get with the use of this stock.

This stock has been improved each year by scientific selection. No other stock can offer the quality of parentage, of rearing methods and of apiary testing service. So why not buy those queens which will give you the greatest value.

WRITE FOR SHIPPING DATES.
NO CHANGE IN PRICES FOR THIS SEASON.

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STATE HOUSE DES MOINES 19, IOWA

WE REGRET

Having to turn away customers. Although we are again increasing our production we can make NO SACRIFICE of QUALITY and SERVICE for QUANTITY. Please send no more orders for package bees for 1947 delivery. ITALIANS AND CAUCASIANS.

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QUEENS AND PACKAGE BEES FOR 1947 SHIPMENT

Our breeding queens of a hardy Italian strain, which for a period of 5 years have been selected only from our highest honey producers.

ON ORDERS BOOKED BEFORE JANUARY 1, 1947

2-lb. package with queen	$4.00 each
3-lb. package with queen	5.00 each
Queens	1.25 each
Tested queens	5.00 each

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NORTHERN CALIFORNIA
TOP QUALITY

Italian Package Bees and Queens

Shipped on time.

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Italian Queens and Package Bees for 1947 Season

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For good results place your requirements (any size) with us now. Orders booked subject to your approval when we announce our prices soon. Do not send deposit until requested.

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STEVE DUPUIS—SANDERS HUVAL, Prop.

F. E. MORRISON

Italian Package Bees and Queens

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Auburn, California

American Bee Journal Classified Ads Bring Satisfactory Results

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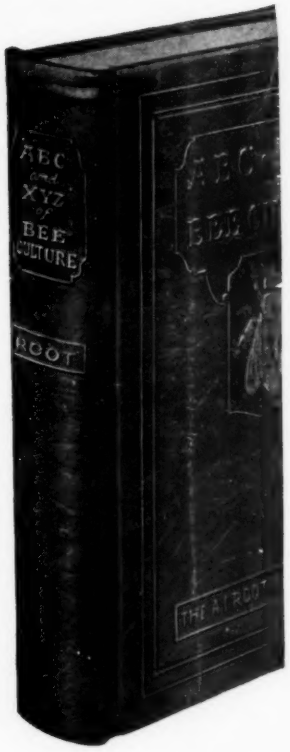

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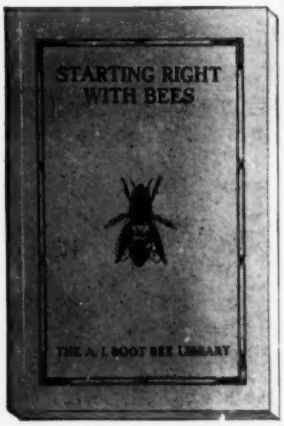

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